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THESIS
THE CONSTRUCTION AND EVALUATION OF
A TEST OF READING READINESS

By

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(B.S. in Ed., Boston University 1939)

submitted in partial fulfilment of the
requirements for the degree of

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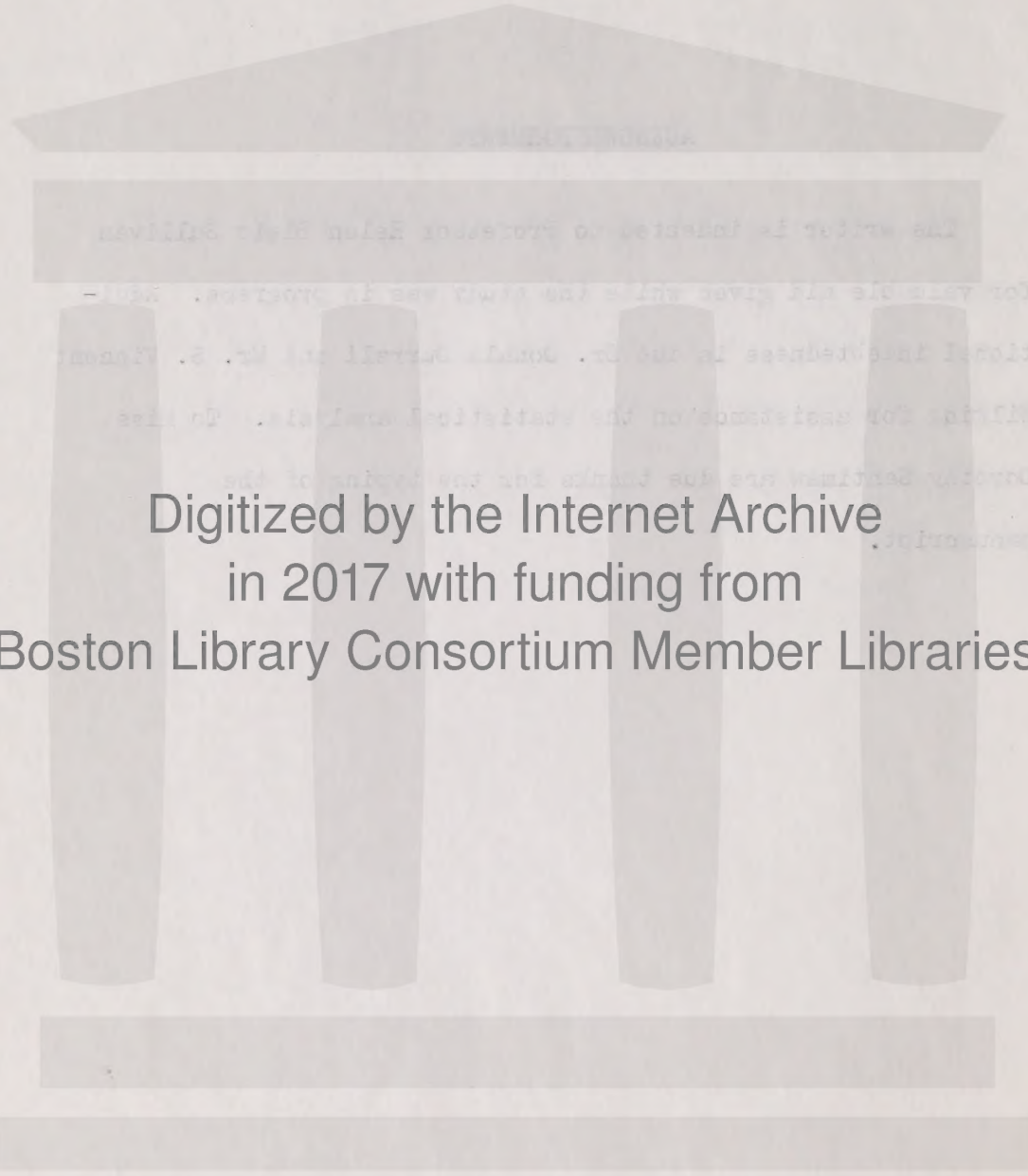
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CHAPTER I

THE CONSTRUCTION AND EVALUATION OF

A TEST OF READING READINESS

"Reading readiness" is a term which, in itself, is quite explanatory. It has, however, caused a great deal of speculation and perturbation among psychologists, parents and teachers. The concept is a useful one but not, of itself, particularly complicated or profound. This investigation will deal with the measurement of those factors amenable to measurement which are in evidence before child has begun to read and which will correlate well with later reading achievement; It will attempt to do two things:

1. Ascertain the most desirable factors to measure and
2. Present a battery of tests which will successfully measure these factors.

Before any further discussion of measures of reading readiness it might be well to ascertain the purpose and scope of reading readiness tests. The fundamental need for tests of this type is the need for accurate, reliable prediction so that instruction in reading may be begun with the optimum assurance of success. Children who, when they start to read, are faced with confusion and defeat are ripe material for the remedial specialist. They probably make up the largest percentage of our reading disability cases at the later levels of their education. It is therefore necessary, if only in the interests of economy, that these reading misfits be minimized at the beginning. Therefore, some measure which will indicate when a child is ready to read and which will also indicate those departments of reading readiness which can be built up so that he will be a better risk in the first grade is

of great practical value to those teachers upon whose shoulders falls the burden of making the decision as to when the young child should begin his reading instruction.

The problem is not a new one nor is the measurement of factors important to the determination of reading readiness entered upon for the first time here. Many of the investigators in the last fifteen years in the field of reading have made both arm-chair and empirically determined decisions concerning factors important in the determination of reading readiness. So that the present investigation may be presented in an adequate frame of reference previous research and opinions presented by authorities will be reviewed.

Early investigators, as well as later ones, have considered several factors as predictive of later success in learning to read. Among these factors we find such as the following: (1) intelligence; (2) interest; (3) home background; (4) meaning vocabulary or experiences; (5) physiological maturity - particularly of the ocular system; (6) ability to see likenesses and differences in objects, geometrical forms and words; (7) motor coordination skill and many more depending upon the idiosyncrasies or experimental results of the investigators in question. The first factors suggested above were discovered quite early by Deputy ^{1/} who showed that an intelligence test score was as good a predictor of reading achievement in the first grade as many reading readiness tests in combination or separately. There is no denying the potency of the intelligence level as an indicator of reading aptitude and it is questionable whether any reading specialist would deny completely its efficacy in prediction.

^{1/} Deputy, E. C., Predicting First Grade Achievement, Contributions to Education, No. 426, Bureau of Publications, Columbia University, New York, 1930.

It is, however, interesting to note that many of the other factors mentioned above are frequently part and parcel of an intelligence test and are, in fact, merely partial indicators, in turn, of intelligence level. If this is kept in mind one can readily see that an intelligence test designed for primary or kindergarten children is, in effect, a readiness test for reading if one considers the factors listed above as predictors. While discussing this factor of intelligence as an important predictor of later reading performance it will be well to discover how later investigators have considered it. Dean, ^{2/} in a recent study, still feels that mental age is a highly significant factor in reading readiness. He concludes that the mental age "required to do average work in first grade reading was found to be six years and six months or better. Below this age far more pupils failed than succeeded." He goes even further to say "the relation of reading readiness as measured by the Metropolitan Readiness Tests and the Monroe Reading Aptitude Tests, to reading achievement, while distinctly positive ($.59 \pm .03$) and ($.41 \pm .04$) was lower than the correlation when mental age was used as the criterion." It is of interest to note, however, that in this study the predicting power of the mental age factor is shown in a correlation coefficient of only $.62 \pm .03$ which is not greater to a statistically significant degree than the coefficient obtained by the Metropolitan. Nevertheless, his conclusion that children should have a mental age of six years and six months before starting to read is in line with conclusions drawn by many other investigators.^{3/}

^{2/} Dean, C. D., "Predicting First Grade Reading Achievement", Elementary School Journal, 39: 609-616 (April, 1939).

^{3/} Morphett, M. V. and Washburne, C., "When Should Children Begin To Read?" Elementary School Journal, 31: 496-503 (March, 1931).

Another study by Petty ^{4/} gives evidence strikingly similar to that found by Dean. Petty attempted to study the influence of a rather large number of factors on reading readiness among which were; chronological age, mental age, the Lee-Clark Reading Readiness Test (a test of ability to distinguish between symbols), Peck and Manuel's Non-Language Prediction Test for Young Children (a drawing test), a test of susceptibility to illusions and a test of eidetic imagery. She concluded that chronological age was unimportant when all the members of the group were at least six years old but found that mental age and later reading achievement (as measured by 'reading marks', presumably recorded by teachers) correlated $.52 \pm .05$. This coefficient is similar to that found by Dean and the similarity is continued when one considers that the Prediction Test correlated with Reading Achievement, $.48 \pm .05$ indicating a lack of a statistically significant difference between them. A study by Huggett ^{5/} would also indicate that mental age is an important factor in reading readiness. He quotes Lincoln ^{6/} as well as Gray and Marsden ^{7/} to the effect that the Intelligence Quotient is quite constant. He concludes that "intelligence appears to be an important factor in reading readiness -- but not the only one. One would feel

^{4/} Petty, M. C., "An Experimental Study of Certain Factors Influencing Reading Readiness", Journal of Educational Psychology, 30: 215-230.

^{5/} Huggett, A. J., "An Experiment in Reading Readiness", Journal of Educational Research, 32: 263-270, (December, 1938).

^{6/} Lincoln, A. E., "The Reliability of the Stanford-Binet Scale and the Constancy of Intelligence Quotients", Journal of Educational Psychology, 18: 621-626, (1927).

^{7/} Gray, P. L., & "The Constancy of the Intelligence Quotient Final Results", Marsden, R.E. British Journal of Psychology, 17: 20-26 (1926-1927).

Another study by Betty E. / gives evidence strikingly similar to that found by Dean. Betty attempted to study the influence of a rather large number of factors on reading readiness scores which were: chronological age, mental age, the MacClark Reading Readiness Test (a test of ability to distinguish between symbols), Beck and Marshall's Non-Verbal Intelligence Test for Young Children (a drawing test), a test of associativity to illustrations and a test of artistic imagery. She concluded that chronological age was unimportant when all the members of the group were at least six years old but found that mental age and later reading achievement (as measured by 'reading marks', presumably scores on tests) correlated $.52 \pm .03$. This coefficient is similar to that found by Dean and the similarity is explained when one considers that the first test correlated with reading achievement, $.52 \pm .03$ indicates a lack of a statistically significant difference between them. A study by Betty E. / would also indicate that mental age is an important factor in reading readiness. He quotes Lincoln A. / as well as Gray and Marshall / to the effect that the Intelligence Quotient is quite constant. He concludes that "intelligence appears to be an important factor in reading readiness -- but not the only one. One would feel that M. C. / 'An Experimental Study of Certain Factors Influencing Reading Readiness', Journal of Educational Psychology, 30: 215-230.

B. / "An Experiment in Reading Readiness", Journal of Educational Research, 30: 233-270, (December, 1933).

A. Lincoln, A. E. / "The Relationship of the Stanford-Binet Scale and the Correlation of Intelligence Quotients", Journal of Educational Psychology, 30: 233-270, (1937).

V. Gray, E. E. / "The Correlation of the Intelligence Quotient with Reading", British Journal of Psychology, 17: 30-32 (1924-1927).

that the use of an intelligence test and several readiness tests would give a high degree of validity to promotions from the kindergarten to the first grade." In concluding our discussion of the role of intelligence as determining reading readiness Gates' ^{8/} recent analysis of methods of determining reading readiness is pertinent.

In studying the coefficients of correlation between a list of 39 indicators of later reading achievement and reading achievement at the end of the first, second and third terms Gates found that Stanford-Binet mental age ranked thirteenth on his list. The apparent divergence between Gates' findings in relation to mental age and other factors can be explained by the fact that he "purified" his indicators to a greater degree than did previous investigators and that he took into consideration 39 factors as opposed to the four, five or six factors considered by his precursors. He states, in the body of his discussion; "The Stanford Binet mental age gives a mean coefficient of .40. It is a useful test for predicting reading ability, but it has less predictive value than many other less time-consuming tests." ^{8/} The fact that Gates' coefficient of correlation is lower than that found by previous investigators may be explained by the fact that his coefficient represented a composite or arithmetic average of many coefficients many of which were undoubtedly higher than .40 (and many of which were lower). The coefficients found previously were on small numbers of cases in only one or two instances. Further evidence which would minimize the importance of intelligence when considered in a constellation of other predictors is found in Gates' study when he compares the poorest achievers with the best.

^{8/} Gates, A. I., Bond, G. L., and Russell, D. H., Methods of Determining Reading Readiness, Bureau of Publications, Teachers College, Columbia, New York, 1939, Page 19.

He states "The means of the poorest readers differ very little from those for the whole group in chronological age and I. Q., and in mental age they are practically identical." ^{9/}

Another factor frequently mentioned in conjunction with reading readiness is general background. This may include such diverse characteristics as the child's experiences, fund of meanings, information, cultural aspects of the home and so forth. While much has been made of this factor little experimental evidence can be brought to bear on the matter. McKee ^{10/} and later, Harrison ^{11/} have both indicated that they believe that a child should have a large fund of meanings and experiences before he embarks upon learning to read. McKee points out the need of readiness training during which time the child, through supervised experiences, problems, projects and activities, gradually accumulates an adequate fund of meanings. The validity of this point of view may be seriously questioned when one considers that the average child enters the first grade with a hearing vocabulary of approximately 2500 words as evidenced by the Kindergarten Union List. Since the child will learn to read no more than six or seven hundred words in the first grade it would seem quite within the realm of possibility that he will need no meanings in excess of those which he normally accumulates. There are, of course, individual cases where the child's experiences have been so circumscribed or limited that some previous training of the type recommended by

^{9/} *ibid*, p. 24.

^{10/} McKee, Paul, Reading and Literature in the Elementary School, Houghton, Mifflin Company, Boston, 1934, pp. 99-100.

^{11/} Harrison, Lucille, Reading Readiness, Houghton, Mifflin Company, Boston, 1936.

He states "The means of the present research differ very little from those for the whole group in characteristics and I. G., and to maintain the same are essentially identical." 3/

Another factor frequently mentioned in connection with reading readiness is mental background. This may include such diverse characteristics as the child's experiences, level of awareness, information, cultural background of the home and so forth. While much has been made of this factor little experimental evidence can be brought to bear on the matter. McKee 12/ and

later, Harrison 13/ have both indicated that they believe that a child should have a fairly good knowledge of meaning and experience before he embarks upon learning to read. McKee points out the need of readiness training during which the child, through supervised experiences, problems, projects and activities, gradually acquires an adequate level of knowledge. The validity of this point of view may be seriously questioned when one considers that the average child enters the first grade with a hearing vocabulary of approximately 3500 words as evidenced by the Kindergarten Union list. Since the child will learn to read no more than six or seven hundred words in the first grade it would seem quite within the realm of possibility that he will need no language in excess of those which he normally acquires. There are, of course, individual cases where the child's experiences have been so circum-
scribed or limited that some previous training of the type recommended by

3/ McKee, p. 24.

12/ McKee, Reading and Language in the Elementary School, Houghton Mifflin Company, Boston, 1934, pp. 45-46.

13/ Harrison, Reading Readiness, Houghton Mifflin Company, Boston, 1937.

McKee would do a great deal of good in a pre-reading program. However, the general case would seem to minimize the importance of this type of training. Harrison believes that the child "needs a wealth of concepts and experiences with which to interpret the symbols he sees in writing and print." In considering this problem of background as an indicator of later reading achievement empirical data can be found in Gates' study 12/ quoted from above. In his list of 39 indicators of later reading achievement the following are listed with their rank number and coefficient of correlation with reading achievement at the end of the first, second and third term. (Average coefficients).

8	Rating: amount and quality of previous instruction in reading. (possibly can be considered a measure of home background.....	45
20	Rating: home educational activities in general.....	23
25	Range of information (Van Wagenen).....	20
30	Rating: miscellaneous visits and other out of school activities.....	14

As predictors of reading achievement all these factors rank rather low when compared with some of the others considered by Gates. The only one which can be considered approximating adequacy is the rating on the amount and quality of previous instruction in reading which, after all, might be expected to be a rather good indicator and is not synonymous with the type of activity suggested by McKee and Harrison. The two factors which most closely parallel McKee's suggestions are the last two "Range of information" and "Miscellaneous visits etc.", which are comparable to unit activities outlined in "Reading and Literature in the Elementary School." 12a/

12/ op. cit., p. 17.

12a/ op. cit.

Further evidence is presented in two studies by Wilson ^{13/} who concluded in one study that "for twenty-five first grade children tested, the two information tests used in this study seem not to have any particularly significant relations with reading tests or with other tests of varied character". He found further that "...there were no significant relations between vocabulary knowledge and reading or between vocabulary knowledge and other abilities." In summarizing these findings it can be said that it would be best to look elsewhere than in the field suggested by McKee for the key which would predict most adequately later reading achievement.

Physiological maturity, particularly maturity of those organs which are of most importance in the learning of the reading response, has often been suggested as an indicator of reading readiness. This maturity may be conveniently be divided into two parts, viz., static maturity and functional maturity. As an example of the first maturity of the ocular system may be given while for the second motor coordination is an example. Betts ^{14/} has emphasized maturity of the ocular system as a necessary precondition to successful reading as well as an indicator of later success in reading.

^{13/} Wilson, F. T., "Correlations of Information with Other Abilities and Traits in Grade I", Elementary School Journal, 37: 295-301, (1936).

Wilson, F. T., "Correlations of Vocabulary Knowledge with Other Abilities and Traits in Grade I", Elementary School Journal, 37: 451-457.

^{14/} Betts, E. A., The Prevention and Correction of Reading Difficulties, Row Peterson and Company, Evanston, Illinois, (1936).

Further evidence is presented in two studies by Wilson (1936) and Wilson (1937) in one study that "The twenty-five first grade children tested, the two information tests used in this study seem not to have any significant relationship with reading tests or with other tests of verbal capacity." The second study that "...there were no significant relations between vocabulary knowledge and reading or between vocabulary knowledge and other abilities." In summarizing these findings it can be said that it would be best to look elsewhere than in the field suggested by Wilson for the key

which would explain the relationship between reading and other abilities. Psychological maturity, particularly maturity of those organs which are of importance in the learning of the reading process, has often been suggested as an indicator of reading readiness. This maturity may be considered to be divided into two parts, viz., mental maturity and functional maturity. As an example of the first maturity of the reading system may be given which for the second system consideration is an example. Better has characterized maturity of the reading system as a necessary condition for successful reading as well as an indication of later success in reading.

Wilson, W. E., "Correlations of Information with Other Abilities and Traits in Grade I", Elementary School Journal, 37: 389-397, (1936).

Wilson, W. E., "Correlations of Vocabulary Knowledge with Other Abilities and Traits in Grade I", Elementary School Journal, 37: 481-487, (1936).

Wilson, W. E., "The Prediction and Correlation of Reading Difficulties", The Elementary School Journal, 37: 481-487, (1936).

The most thorough experimental study of the role of this, as well as other physiological factors, appears to be Gates¹⁵ study where measured of physiological maturity are listed among the 39 studied.

The following list gives the rank (among the 39) and the coefficients of correlation with later reading success for measures of static physiological maturity:

17.	Audiometer: hearing loss; both ears.....	.29
	" " " ; poorer ear.....	.25
	" " " 1 better ear.....	.24
37.	Visual acuity (Telebinocular) both eyes.....	.09

Further data on this problem can be found in the Horace Mann study carried on by Wilson, Flemming and White who found that sixteen tests of motor control, tapping, grip, perseveration etc., were "practically unrelated to reading" and that "varying abilities to see, hear, and speak.....do not seem to be closely or critically related to progress in reading, as revealed by either the statistical analyses or the case studies" ¹⁶/ In neither Wilson's nor in Gates' study was handedness or visual dominance found to be a matter of appreciable significance. Gates summarizes by saying: "Both studies agree in indicating that some writers on reading readiness are placing wholly unjustifiable emphasis on visual deficiencies and 'immaturity'" ¹⁷/.

The writer feels, with Gates and Wilson, that the child can learn to read and can compensate for many mild degrees of physiological immaturity and that only in the severe case (and often in conjunction with other factors) can physiological immaturity be considered a factor in non-reading or the existence of maturity a potent one in the prediction of later reading

¹⁵/ op. cit. p. 17.

¹⁶/ quoted by Gates, op. cit. p. 30-31.

¹⁷/ Gates, A. I. op. cit. p. 31.

The most thorough experimental study of the role of this, as well as other physiological factors, appears to be Gates' study where measures of physiological factors are listed upon the 38 studies.

The following list gives the rank (among the 38) and the correlation of correlation with later reading - scores for measures of static physiological factors:

39	Visual acuity (binocular) both eyes	0.39
38	Visual acuity (monocular) right eye	0.38
36	Visual acuity (monocular) left eye	0.36

Further data on this problem can be found in the Gates' study carried on by Wilson, Fleming and White who found that sixteen tests of motor coordination, rhythm, tempo, persistence etc., were "practically unrelated to reading" and that "verbal ability to read, hear, and speak" did not seem to be closely or critically related to progress in reading, as revealed by either the statistical analysis or the case studies. In neither Wilson's nor in Gates' study was handedness or visual dominance found to be a relevant experimental significance. Gates summarizes by saying: "Both studies agree in indicating that some writers on reading readiness are quite wholely unjustifiable in their claims on visual factors and 'motority'."

The writer feels, with Gates and Wilson, that the child can learn to read and can compensate for many mild degrees of physiological immaturity and that only in the severe case (and often in connection with other factors) can physiological immaturity be considered a factor in non-reading or the existence of naturally a potent one in the prediction of later reading.

- 13/ Gates, G. L. p. 17.
- 12/ Gates, G. L. p. 17-21.
- 11/ Wilson, A. I. et al. p. 31.

achievement.

Finally, in the clusters of factors which have been considered important in the prediction of reading achievement there is found one which cluster may be considered, generally as comprised of educable factors. This term is used for the first time here but is believed to be a convenient one which will fit in nicely with a discussion to be pursued later. By "educable factors" is meant those factors of prediction which can be improved by specific teaching either by the kindergarten teacher or by the teacher in the first grade. They are factors which have been found by many investigators to correlate best with later reading achievement and which can be readily taught in a "reading readiness program." These factors are shown, and their correlation coefficients with later reading achievement listed, in Gates' study. ^{18/} The following list is reproduced from Gates' table:

Rank	Test	Correlation
2.	Six word perception tests.....	.59
3.	Errors: perception words, different beginning, same ending.....	-.56
5.	Errors, perception words, words with similar configuration, different individual letters.....	-.53
6.	Van Wagenen reading readiness test.....	.52
7.	Perception nonsense words.....	.49
9.	Giving rhyming words.....	.43
10.	Errors: giving words of same initial sound.....	.41

It is noteworthy that all the factors in the above list correlate quite highly with later reading performance. They all correlate higher than Stanford Binet Mental Age which had a coefficient of correlation of only .40. All the indicators mentioned can be summarized in the general term of "visual and auditory discrimination of word forms and sounds." This is substan-

^{18/} op. cit. p. 17.

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That, in the context of factors which have been considered in-
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 their correlation coefficients with later reading achievement listed, in
 Table 1. The following list is reproduced from Gates' study:

Rank	Test	Correlation
1.	Six word perception test	.58
2.	Letter: perception word, different	
3.	Perception word, same with	-.56
4.	Letter: perception word, different initial	
5.	Visual letters	-.55
6.	Van Wagenen reading readiness test	.52
7.	Perception nonsense word	.49
8.	Living reading words	.48
9.	Letter: living words of same initial	
10.	Sound	.41

It is noteworthy that all the factors in the above list correlate quite
 highly with later reading performance. They all correlate higher than stan-
 dard scores which are used as a standard of correlation of .50.
 All the factors mentioned can be measured in the kindergarten or "vis-
 ual and auditory discrimination of word forms and sounds." This is subes-

tially what the whole process of reading is about. When a child is taught to read the major part of his work is the discrimination between visual and auditory symbols. One should not, then, be surprised to discover that these factors correlate highly with later reading achievement, just as it was not surprising to discover that amount of previous instruction in reading correlated well with the criterion. This situation is well summarized by Gates^{19/} when he says, in the conclusions to his study that "the best reading readiness testing consists essentially in making an "inventory" of various interests and of the techniques used in reading itself. In principle, testing the reading readiness of a child on entering school is the same as testing reading attainments at any later time from the second grade to college. In all cases, the desirable outcome is not merely the general or total score but an expression of the child's status in each of the important abilities entering into reading at the time and shortly thereafter. It is, in brief, a 'diagnostic inventory' of actual reading abilities, techniques, skills, and interests similar in general to those used later in the program." Gates' statement, in the light of the research which he presents in corroboration, seems, on the whole, correct. Reading readiness is little more than the beginning of reading and to test it one must utilize those items which will test the beginnings of reading. To discover the individual's aptitude for a given vocation one evaluates his skill in those abilities required to do that job and not some other skills only remotely related to the vocation in question. Similarly, the evaluation of readiness to read requires the discovery of the degree of skill the child has attained in those rudimentary reading techniques which every child has begun to build up from the time

^{19/} op. cit. p. 53.

clearly that the whole process of reading is about. When a child is taught to read the major part of the work is the discrimination between visual and auditory symbols. One would not, then, be surprised to discover that these factors correlate highly with later reading achievement. Just as it was not surprising to discover that amount of previous instruction in reading correlated with the criterion. This situation is well summarized by Gates when he says, in the conclusion to his study that "the best reading test - these testing consists essentially in making an 'inventory' of various interests and of the techniques used in reading itself. In principle, testing the reading readiness of a child on entering school is the same as testing reading achievement at any later time from the second grade to college. In all cases, the testable which is not merely the general or total score but an expression of the child's status in each of the important abilities enters into the testing of the time and thereby characterized. It is, in brief, a 'diagnostic inventory' of normal reading abilities, techniques, skills, and interests which is related to those used later in the program." Gates' statement, in the light of the research which he presents in corroborative, seems, on the whole, correct. Reading readiness is little more than the beginning of reading and to test it one must utilize those items which will test the readiness of reading. To discover the individual's aptitude for a given vocation one evaluates his skill in those abilities required to do that job and not some other skills only remotely related to the vocation in question. Similarly, the evaluation of readiness to read requires the discovery of the degree of skill the child has attained in those rudimentary reading techniques which every child has begun to build up from the time

when he starts to talk and inquire into the world of symbols about him.

Since it can be stated that the best reading readiness test is that which measures those skills which are, in effect, reading skills there is a corollary which must be closely considered. The test with the highest predictive power is that which tests those skills, techniques, interests and abilities which are later taught in the program of reading instruction under which the child shall work. In the same way the optimum time of beginning reading is not entirely dependent upon the nature of the child himself, but is in a large measure determined by the nature of the reading program followed. 20/ Gates and Bond state: "It appears that readiness for reading is something to develop rather than something merely to wait for.....The indication that success in reading was most closely correlated with symptoms of earlier preparation, as shown by tests of familiarity with printed words, pencil and paper reading readiness tests, and so forth, affirms the soundness of this view." 21/

This summary of some of the pertinent research in the field of reading readiness has discussed the role of several factors or groups of factors in reading readiness. Among them have been intelligence, background and meaningful experience, physiological maturity and auditory and visual discrimination of word forms. The first and last named, as determined by the results of empirical investigations, would seem to be most potent as predictive factors of later reading success. To discover how these factors have been utilized in existing tests of reading readiness a short analysis of the out-

20/ Gates, A. I., and Bond, G. L., "Reading Readiness", Teachers College Record, 37: 679-685, (May 1936).

21/ ibid, p. 684.

when he attempts to read and transfer into the world of symbols about him.

Since it can be stated that the best reading readiness test is that

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of extended investigations, would seem to be most potent as predictive fac-
tors of early reading success. To discover how these factors have been uti-
lized in existing tests of reading readiness a short analysis of the out-

El Gates, A. I., and Bond, G. L., "Reading Readiness", Teachers College
Bulletin, 37: 379-386 (May 1936).

El Gates, A. I., 1936.

standing reading readiness tests will be presented.

Table I presents a summarization of the factors measured by five frequently used reading readiness tests.

TABLE I

Comparison Between Five Tests of Reading Readiness

TESTS	VISUAL DISCRIMINATION		VISUAL MEMORY		AUDITORY DISCRIMINATION		AUDI-TORY MEMORY		MOTOR COOR-DINATION		LANG-UAGE		COMPREHEN-SION AND CORRECT REACTION TO:															
	Pictures	Geometric Forms	Numbers	Letters	Words	Ocular motor	Memory for forms	Drawing forms	Words	Initial	Middle	Endings	Blends	Story or Sentences	Speed	Control	Free Drawing	Writing names	Picture vocabulary	Classification	Sentence length	Articulation	Directions	Information	Letters	Numbers	Word learning	Laterality
Lee-Clark				x																								
Metropolitan	x	x	x		x												x		xx				x	x			x	
Monroe						x	x	x		x	x	x	x	x		x	x	x	x	x	x	x						x
Van Wagenen					x				x					x					x				x				x	
Gates					x					x													x		x	x		

From Table I it is obvious that all constructors of tests of reading readiness do not agree as to what factors should be measured in readiness tests. The tendency appears to be to test visual discrimination quite unanimously but the other factors listed have also been utilized in the construction of tests.

The Lee-Clark Reading Readiness test is a letter perception test. The content consists of letters and words in which the child is to recognize similarities and differences in the symbols used. Several studies have been made in which this test has been used. Petty ^{22/} found that it correlated $.44 \pm .05$ with later reading achievement. From the point of view of the classroom teacher the test is inadequate when considered as a diagnostic inventory. A more comprehensive analysis would be of more value in the practical situation.

The Monroe Reading Aptitude test measures several abilities, viz., visual, auditory, motor, articulation and language by means of seventeen tests grouped under these five headings. Much use is made of geometric forms. It is of interest to note that Monroe reports a correlation of $.66 \pm .04$ between reading achievement and the scores on the auditory tests in the battery. ^{23/} This correlation is of interest in as much as the auditory tests very closely approximate the true reading situation. Other of the tests in the battery have been criticized because of their predominantly psychological rather than educational nature. Dean ^{24/} found a correlation of .41 between the Monroe Reading Aptitude Test as a whole and later reading achievement. From practical experience in the classroom the writer feels that many of the subtests in the battery are too far removed from the read-

^{22/} Petty, op. cit. p. 227.

^{23/} Monroe, M., "Reading Aptitude Tests for the Prediction of Success and Failure in Reading," Education, 56: 7-14 (1935).

^{24/} Dean, op. cit.

The Mac-Clellan Reading Readiness test is a letter perception test. The content consists of letters and words in which the child is to recognize similarities and differences in the symbols used. Several studies have been made in which this test has been used. Petty (23) found that it correlated .44 ± .03 with later reading achievement. From the point of view of the classroom teacher the test is inadequate when considered as a diagnostic inventory. A more comprehensive analysis would be of more value in the instructional situation.

The Monroe Reading Attitude test measures several abilities, viz., visual, auditory, motor, articulation and language by means of seventeen tests grouped under these five headings. Much use is made of acoustic forms. It is of interest to note that Moore reports a correlation of .36 ± .02 between reading achievement and the scores on the auditory tests in the battery. (24) This correlation is of interest in as much as the auditory tests very closely approximate the true reading situation. One of the tests in the battery have been omitted because of their predominantly psychomotor nature rather than educational nature. Dean (25) found a correlation of .41 between the Monroe Reading Attitude Test as a whole and later reading achievement. From practical experience in the classroom the writer feels that many of the subjects in the battery are too far removed from the test-

23/ Petty, op. cit. p. 227.

24/ Monroe, "Reading Attitude Tests for the Prediction of Success and Failure in Reading," Education, 63: 7-12 (1932).

25/ Dean, op. cit.

ing situation and, for that reason results on them have little to tell to the examiner. The Metropolitan Reading Readiness Test measures ability to perceive similarities and differences, copying visual forms, understanding of words, sentences, counting ability and range of information. Hildreth, the author of the test, feels that "the teacher should regard information as tentative until she is able to verify test findings by means of her own evaluation of child's ability to read." One criticism which may be leveled against this test is that it measures many factors which are measured by intelligence tests. The test does provide a verification of mental test data, and also a broader base from which conclusions may be drawn as to the child's readiness for reading. It is longer than primary intelligence tests and gives more detailed information about abilities closely related to pupil activities in the first grade. In a recent study 25/ it was found that the Metropolitan test correlated .56 with the Gates Word Recognition Test and .63 with the Devault Reading Test. The writer of this study concluded that "children who score over 80 on the Metropolitan are practically certain to succeed in reading and that those who score under 40 are practically certain to fail. It also (is) indicated that children who score between 40 and 80 are about as likely to succeed as not."

The Gates Reading Readiness tests measure picture direction, word matching, word-card matching, rhyming and letters and numbers. The test has a high reliability coefficient of .974 which is quite unusual for a test designed for small children and the test as a whole correlates .706 with later reading achievement. These correlations are quite extraordinary when considered in the light of the figures given for tests previously reviewed.

25/ Calvert, E. T., "Predicting Accomplishment in Beginning Reading," California Journal of Elementary Education, 6: 34-42.

the situation and, for that reason results on them have little to tell to the examiner. The Metropolitan Reading Readiness Test measures ability to perceive similarities and differences, copying visual forms, understanding of words, sentences, counting ability and range of information. Although the author of the test feels that "the teacher should regard information as tentative until she is able to verify test findings by means of her own evaluation of child's ability to read." One criticism which may be leveled against this test is that it measures many factors which are measured by intelligence tests. The test does provide a verification of mental test data and also a broader base from which conclusions may be drawn as to the child's readiness for reading. It is longer than primary intelligence tests and gives more detailed information about activities closely related to reading activities in the first grade. In a recent study ²² it was found that the Metropolitan test correlated .55 with the Gates Word Recognition Test and .62 with the Devault Reading Test. The writer of this study concluded that "children who score over 80 on the Metropolitan are practically certain to succeed in reading and that those who score under 40 are practically certain to fail. It also (is) indicated that children who score between 40 and 80 are about as likely to succeed as not."

The Gates Reading Readiness Test measures phonics, direction, word matching, word-card matching, rhyming and letters and numbers. The test has a high reliability coefficient of .974 which is quite unusual for a test designed for small children and the test as a whole correlates .708 with later test achievement. These correlations are quite extraordinary when considered in the light of the figures given for tests previously reviewed.

²² Oliver, E. T., "Predictive Accomplishment in Reading Readiness," California Journal of Elementary Education, 3: 34-42.

Among the readiness tests which are comprised of a battery of sub-tests can be included the Van Wagenen Reading Readiness Test. It consists of six sub-tests which are amenable to some degree of analysis resulting in diagnosis. The parts include the following: (1) a general information test; (2) a test of the ability to see relationships; (3) a vocabulary test; (4) a test of memory span of ideas; (5) a word discrimination test and (6) a word learning test. The Van Wagenen test as a whole is presented by its author as have a coefficient of correlation with reading scales of .73 ~~±~~ .03. The situation, however, changes somewhat in the Gates study referred to above in which it was found that the Van Wagenen test as a whole correlated .52 with later reading achievement -- a much more significant figure in its derivation than that suggested by the author of the test where the correlation was a result of correlating the results on a reading readiness scale and a reading achievement scale given at the same time. An introspective analysis of the six parts of the Test would suggest that the first four tests have relatively low predictive power if one utilizes the criterion which indicates that a reading readiness test should be a diagnostic inventory of reading achievement at an extremely low level. The last two tests in the battery, by the same criterion, would appear to be excellent instruments for predictors.

The Symbol Scales for use in beginning reading devised by F. T. Wilson and C. W. Flemming ^{26/} are at present in an experimental form. The Scales have, however, a rather higher predictive power than many readiness tests now on the market. The Scale consists of nine sub-tests dealing, in the main with letter names, sounds and phonetic combinations.

^{26/} Wilson, F. T., and Flemming, C. W., "Symbol Scales for Use in Beginning Reading", Journal of Psychology, 8: 99-114 (April, 1939).

Among the readiness tests which are comprised of a battery of sub-
tests can be included the Van Wageningen Reading Readiness Test. It consists
of six sub-tests which are available to some degree of analysis resulting
in diagnosis. The parts include the following: (1) a general information
test; (2) a test of the ability to see relationships; (3) a vocabulary
test; (4) a test of memory span of letters; (5) a word discrimination test
and (6) a word learning test. The Van Wageningen test as a whole is presented
by the author as having a coefficient of correlation with reading scales of
 $.75 \pm .05$. The situation, however, changes somewhat in the later study re-
ferred to above in which it was found that the Van Wageningen test as a whole
correlated .62 with later reading achievement -- a much more significant
figure in its derivation than that suggested by the author of the test
where the correlation was a result of correlating the results on a reading
readiness scale and a reading achievement scale given at the same time. An
introspective analysis of the six parts of the test would suggest that the
first four tests have relatively low predictive power if one utilizes the
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of the inventory of reading achievement at an extremely low level. The last
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The Symbol Scales for use in beginning reading devised by E. T. Wilson
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main, with letter names, sounds and phonetic combinations.

E. T. Wilson, E. T., and Williams, C. W., "Symbol Scales for Use in Beginning
Reading," *Journal of Experimental Psychology*, 8: 99-116 (April,
1922).

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It has been found 27/ that mastery of various letter abilities correlate well with later reading achievement in grade one. Wilson's test is designed mainly for use at the beginning and end of grade one rather than for the kindergarten years. In correlating results on the Symbol Scale with achievement in reading one to three years later he found rho correlation coefficients ranging from .74 one year later to .57 three years later. The coefficients are quite high and speak well of the predictive power of the tests. His tests are based, then, upon the practical observation that "... many pre-first grade children had begun to learn letters before they learn any words, and that those who knew the most letters tend, also, to be the best readers." 28/

After a consideration of previous research and of tests which have been constructed to measure reading readiness certain points can be brought forward as being quite important in the construction of any new measure of reading readiness. A test of reading readiness is little more or less than a diagnostic inventory of reading achievement at an extremely low level. The child has made certain steps, albeit faltering ones, on the road to reading. The success with which the child has made these steps is amenable to objective measurement. The reading readiness test is merely the first of the long series of reading tests with which the child will be confronted throughout his academic career. For the test to predict well it must test those factors which will be stressed in the later reading program. As a diagnostic inventory it should indicate weak points and strong points and, if necessary, indicate those deficient departments which can be developed by a reading readiness program.

28/ Wilson, T. F. and Flemming, C. W., "Correlations of reading progress with Other Abilities and Traits in Grade I", Journal of Genetic Psychology, 53: 33-52.

A series of tests which comprise a reading readiness battery and also a foundation for a reading readiness program will be presented in this investigation. They have been designed to fulfill the above-mentioned criteria including that criterion which suggests that they shall present an opportunity for the child to learn as well as for the teacher to evaluate.

in this investigation as well as a description of the population from which the data were obtained.

The tests were constructed to fill a need indicated both by the previous work of the tests listed in the last chapter and by a need felt by the writer after many years of experience with children in the pre-reading situation in kindergarten. The tests, as constructed, attempt to present each new concept in the testing of reading readiness as well as to bring to the attention of the child various other skills which are to be developed by some of the tests given on the subject.

Many tests were constructed than will be described. The tests which remain will be designated by their original code numbers. It is hoped that the reader will find the tests and not be concerned with the code. The code of the test which is somewhat descriptive of the nature and the original code number.

- | | | |
|--------|-----------------------|-----------------|
| Test 1 | Picture matching test | |
| 2 | Picture-word matching | |
| 3 | Letter-word matching | (Capital) |
| 4 | " | (Small Capital) |
| 5 | " | (Lower case) |
| 6 | Word drawing | |
| 7 | Word-word matching | (Capital) |
| 8 | " | (Lower case) |
| 9 | Copying test | |
| 10 | Initial Sound Test | |
| 11 | Letter Coordination | |
| 12 | " | |

A series of tests which comprise a reading readiness battery and also a foundation for a reading readiness program will be presented in this investigation. They have been selected to fulfill the above-mentioned criteria including that criterion which requires that they shall present an opportunity for the child to learn as well as for the teacher to evaluate.

CHAPTER II

THE CONSTRUCTION OF THE TESTS AND

THE PROCEDURE OF THE EXPERIMENT

Herein will be presented a summary of the nature of the tests utilized in this investigation as well as a description of the population upon which the tests were evaluated.

The tests were constructed to fill a need indicated both by the obvious shortcomings of the tests listed in the last chapter and by a need felt by the writer after many years of experience with children in the pre-reading situation in kindergarten. The tests, as constructed, attempt to present some new concepts in the testing of reading readiness as well as an essay at rectifying some of the more blatant errors which appear to be inherent in many of the tests now on the market.

More tests were constructed than will be described. The tests which remain will be designated by their original code numbers. It is felt that the tests not utilized in the study need not be commented upon. Below is given the name of the test which is somewhat descriptive of its nature and the original code number.

Test 1	Picture matching test	
2.	Picture-card matching	
3a	Letter-card matching	(Capitals)
3b	" " "	(Small Capitals)
3c	" " "	(lower case)
4a	Word Matching	
4b	Word-card matching	(Capital)
4c	" " "	(lower case)
5	Rhyming test	
8	Initial Sound Test	
10a	Motor Coordination	
10b	" "	

CHAPTER II

THE CONSTRUCTION OF THE TESTS AND

THE PROCEDURE OF THE EXPERIMENT

Herein will be presented a summary of the nature of the tests utilized in this investigation as well as a description of the population upon which the tests were evaluated.

The tests were constructed to fill a need indicated both by the observations of the tests listed in the last chapter and by a need felt by the writer after many years of experience with children in the present-day situation in kindergarten. The tests, as constructed, attempt to present some new concepts in the testing of reading readiness as well as an easy at rectifying some of the more drastic errors which appear to be inherent in many of the tests now on the market.

More tests were constructed than will be described. The tests which remain will be designated by their original code numbers. It is felt that the tests not utilized in the study need not be completed soon. Below is given the name of the test which is somewhat descriptive of its nature and the original code number.

Test 1	Picture matching test
2	Picture-card matching
3a	Letter-card matching (Capital)
3b	" " " (Small Capital)
3c	" " " (Lower case)
4a	Word matching
4b	Word-card matching (Capital)
4c	" " " (Lower case)
5	Erasing test
6	Initial Sound Test
10a	Letter Discrimination
10b	" " "

The tests listed here may be found in the Appendix.

Many tests previously constructed for reading readiness have not ~~had~~ sample tests utilized to habituate the children to the method of taking the test. Because of this factor much confusion has resulted casting grave doubts on the test reliability. In the present series the children are given ample opportunity to discover the nature of the test, and how to take it. For this reason each test is preceded by a sample test or fore-exercise. The method has been frequently used by other test constructors, notably Thurstone, ^{1/} in an attempt to make sure that all the subjects taking the tests knew what was expected of them. This is even more important when dealing with small children.

Test 1 is a picture matching test consisting of fifteen squares containing four pictures in each square. The child is asked to discover the two pictures which are alike and to draw a line under them. They are cautioned to draw this line from the left to the right. This technique is taught thoroughly in the sample test which precedes the main test where six large squares with four pictures are presented for practice. Each child is furnished with a marker so that he will not wander and lose his place, a factor which looms large in kindergarten testing. The marking by means of a line seems more desirable than circling the picture or putting a cross on it as is done in many readiness tests. Consistent drawing of the line from left to right reinforces the left-to-right progression needed in reading. It is found that the markers are readily handled by the children and definitely minimize the chance of losing the place. The difficult items in the

^{1/} Thurstone, L. L., and Thurstone, T. G., Factorial Studies of Intelligence, Psychometric Monographs, No. 2, University of Chicago Press, (1941), pp. 46-82.

test proper are scattered so that the child received a motivating boost from time to time. The instructions for doing the test are clear and have caused no trouble in administration. The children are asked to count the number of pictures in each box out loud at the same time touching each one with his finger. This kinaesthetic reinforcement is quite valuable in maintaining the highly distractible attention of four and five year olds. This audio-visual-kinaesthetic approach to the directions is used in each test in the battery. The aim of this test, obviously, is to test the ability to see likenesses and differences which become so important in the later discrimination of letter forms.

Test 2 is a picture card matching test. It consists of twenty-four groups of four pictures each. The teacher shows a large card for each group of four pictures and the children are asked to underline that picture which is like the one on the card. Markers are utilized once more to avoid losing the place. The cards are shown for a period of five seconds which have proved to be ample for the children. The same approach to the directions are used here as in test one.

Test 3 was a letter-card matching test in three parts. The first part tested capital letters, the second, small capitals and the third, lower case letters. The directions are similar to the directions used in Test 2. The children are asked to underline the letter (in a group of four) which look like the one held up on the card. In each group of four letters two are quite similar in appearance and two quite dissimilar. This test is felt to have good predictive power in as much as it is a test of the ability to discriminate between difficult letter forms.

Test 4a consists of a word matching test in which the words are written

in capital letters. In the fore-test the children are taught to point at each word with two fingers, one finger indicating the beginning of a word and the other the end of the word. In this manner the children are able to consider a word as a single unit rather than as a loosely knit series of letters. The sample test preceding the main test shows the pupils how to look for dissimilarities between words in their beginnings, endings, middle letters and lengths. After the children have thoroughly apprehended the directions they were given the test itself which consists of fourteen words each followed by two other words one of which is the same as the test word. They are asked to underline the word like the test word. The emphasis upon the discrimination between similarities and differences is, of course, continued in this test on the higher level of words.

Test 4b is a continuation of test 4a with a few differences. The test is now a word-card matching test similar to the picture-card matching test. In the first part of this test the children underline the word (in a group of four) which is like that on the card shown to them. The words, in this test, were written in lower case letters. In the last part of the test, 4c, they are required to choose the one word out of two which is like that on the card. Here the choice is quite difficult in as much as word pairs consist of words of similar form such as: was and saw. In administering this test to the children there has been no evidence of guess work on their part. The work which they had done in the preceding sections of the battery had prepared them to such an extent that they had reasons for discriminations made.

Test 5 is a rhyming test which has been found by previous investigators to be of high predictive value. This test consists of twenty-eight rows of

in capital letters. In the first test the children are taught to point at each word with two fingers, the fingers indicating the beginning of a word and the other the end of the word. In this manner the children are able to consider a word as a single unit rather than as a loosely knit series of letters. The second test proceeds: the main test shows the child how to look for dissimilarities between words in their beginning, ending, middle letters and sometimes. After the children have thoroughly appreciated the difference they are given the test itself which consists of fourteen words each followed by two other words one of which is the same as the test word. They are asked to underline the word like the test word. The emphasis upon the dissimilarity between similarities and differences is, of course, continued in this test on the higher level of words.

Test 3 is a continuation of test 2 with a few differences. The test is now a word-card matching test similar to the domino-card matching test. In the first part of this test the children underline the word (in a group of four) which is like the word on the card shown to them. The words, in this test, were written in lower case letters. In the last part of the test, 40, they are required to choose the one word out of two which is like that on the card. Here the choice is quite difficult in as much as with pairs consisting of words of similar length as: bag and day. In administering this test to the children there has been no evidence of words being on their part. The work which they had done in the preceding sections of the battery had prepared them to such an extent that they had reasons for discriminations.

Test 4 is a matching test which has been found by previous investigations to be of high predictive value. This test consists of twenty-eight rows of

four pictures in each row. The child is asked to underline one of the pictures named by the teacher. He is then asked to underline the picture which rhymes with the picture which he had just underlined. There is a fairly long fore-exercise to this test which is needed to acquaint the children to the idea of rhyming. These fore-exercises consist of a long poem which is read to the children. In the last two stanzas of this four stanza poem the last word of the line is omitted and the children asked to fill in the missing word. In this manner they get the idea of rhyming. The second fore-exercise consists of finding pictures of words (in a large picture illustrating the poem) which rhyme with words spoken by the teacher. After these thorough sample tests the children find relatively little difficulty in dealing with the main test.

Test 8 is a test of initial sounds. The idea of initial sounds is presented by means of the recitation of a poem which has many words beginning with the same letter. A picture which illustrates the poem is given to the children and they are asked to locate such objects as "the bouncing ball" and the "big boat." After this is done successfully attention is drawn to the fact that the words utilized seem to have the same sound in the beginning. In the main test there are fourteen sets of four pictures each. The child is given a word which describes a picture and is asked to underline it. He is then asked to underline a picture which starts with the same letter as the picture just underlined. This test of initial sounds is little more than an extension of the rhyming test which tested for the ability to discriminate between the sounds of word endings.

Tests 10a and b are tests of motor coordination consisting of pictures of a duck and a Christmas tree made up of dashes. To test the coordination

four pictures in each row. The child is asked to underline one of the pictures named by the teacher. He is then asked to underline the picture which comes with the picture which he had just underlined. There is a fairly long fore-exercise to this test which is needed to acquaint the children to the idea of copying. These fore-exercises consist of a long poem which is read to the children. In the last two stanzas of this poem the children are asked to fill in the missing word of the line is omitted and the children asked to fill in the missing word. In this manner they get the idea of copying. The second fore-exercise consists of finding pictures of words (in a large picture illustrating the poem) which rhyme with words spoken by the teacher. After these thorough warm-up tests the children find relatively little difficulty in dealing with the main test.

Test 8 is a test of initial sounds. The idea of initial sounds is presented by means of the recitation of a poem which has many words beginning with the same letter. A picture which illustrates the poem is given to the children and they are asked to locate each object as "the bouncing ball" and the "big boat." After this is done successfully attention is drawn to the fact that the words which seem to have the same sound in the beginning. In the main test there are fourteen sets of four pictures each. The child is given a word which describes a picture and is asked to underline it. He is then asked to underline a picture which starts with the same letter as the picture just underlined. This test of initial sounds is five times more than an extension of the previous test which tested for the ability to discriminate between the sounds of word endings.

Tests 10a and 10b are tests of motor coordination consisting of pictures of a duck and a butterfly. The child is asked to copy the picture of a duck and a butterfly. To test the coordination

the children are asked to connect the dashes with a pencil line. The drawing of the tree is such that practice in the left to right movement is given.

The subjects utilized in this study were drawn from the regular kindergarten groups in schools in the metropolitan area of a large city. The age range tapped was from four years of age to eight years of age. The number of cases in the upper and lower age limits were extremely few with the largest concentration of cases ranging in the four years and six months to five years and six months group. The subjects were approximately equally divided between the sexes. The total number of subjects to whom the tests were given was 387. However, in many cases incomplete data are available, due to absences, so that the number of cases used in the statistical analysis for each test varied, only those pupils who completed the test in question being used. The tests were administered by the regular teachers after thorough instruction by the investigator. Because of this factor no extraneous influences were brought to bear and the children worked under circumstances to which they had become accustomed.

The test materials used were mimeographed and were just as they appear in the Appendix. The line drawings were clear-cut and unambiguous and caused no difficulty in interpretation on the part of the children.

It was impossible to discover whether the group used in the testing was normally distributed as regards mental age in as much as data on mental ages were not available in all schools. A minor study on forty cases in which mental ages were available is presented in Chapter III. The choice of schools in which the tests were tried out cannot be considered random in so far as school groups were used wherever it was found that school officials

the children are asked to connect the dashes with a pencil line. The direction of the line is such that practice in the left to right movement is given.

The subjects utilized in this study were drawn from the regular kindergarten groups in schools in the metropolitan area of a large city. The age range ranged from four years of age to eight years of age. The number of cases in the upper and lower age limits were extremely few with the largest concentration of cases ranging in the four years and six months to five years and six months groups. The subjects were approximately equally divided between the sexes. The total number of subjects to whom the tests were given was 387. However, in many cases incomplete data are available due to responses, so that the number of cases used in the statistical analysis for each test varied, only those pupils who completed the test in question being used. The tests were administered by the regular teachers after thorough instruction by the investigator. Because of this factor no extraneous influences were brought to bear and the children worked under circumstances in which they had become accustomed.

The test materials used were standardized and were found to they appear in the appendix. The time limit was observed and the instructions and

It was impossible to discover whether the groups used in the testing were normally distributed as regards mental age in as much as data on mental age were not available for all subjects. A check study on forty cases in which mental age were available is presented in Chapter III. The choice of subjects in which the tests were given was ascertained random in so far as school records were used wherever it was found that school officials

were willing to cooperate. This factor of lack of randomness may cast some doubt on the validity of the statistical data presented in the next chapter. Even though this shortcoming is recognized the group can be considered fairly typical of the public school population in the area in which the schools were located. There was a sprinkling of children with bilingual background but it is not felt that this group was in excess of the usual incidence to be expected in the typical school in this area. The bilinguals were generally limited to the Italian home in which the mother spoke mainly Italian while the father and other children had some command of the English language.

TABLE 17
Index of Difficulty of Various Paragraphs
Tested. Pooled Pupils All Ages

Tests	1	2	3a	3b	3c	4a	4b	4c	5	6	7a	7b
N	107	140	107	100	121	141	100	111	101	111	100	100
Items	10	24	14	10	10	10	12	12	24	14	17	14
M score	11.59	13.57	12.43	11.70	11.58	11.31	11.77	11.71	12.00	11.71	12.33	12.33
S.D.	.799	.774	.708	.681	.671	.660	.689	.680	.740	.688	.707	.687
S.E.	.082	.064	.074	.081	.068	.067	.076	.070	.080	.068	.073	.069

2

were willing to cooperate. This factor of lack of willingness may cast some doubt on the validity of the statistical data presented in the next chapter. Even though this shortcoming is recognized the group can be considered fairly typical of the public school population in the area in which the schools were located. There was a sprinkling of children with bilingual backgrounds but it is not felt that this group was in excess of the usual incidence to be expected in the typical school in this area. The bilinguals were generally limited to the Italian home in which the mother spoke mainly Italian while the father and other children had some command of the English language.

CHAPTER III

THE ANALYSIS OF DATA

After the reading readiness tests described in Chapter II were administered to the children it was first thought desirable to ascertain the order of difficulty of the various tests in regard to the total population utilized and in regard to different age groups which comprised this total population. It was felt that the discovery of the order of difficulty of the various tests (which measured a diversity of functions thought to be predictive of later success in reading) would throw some light on their nature and upon the possible revision of the test battery. It was also of interest from the point of view of teachability of the functions measured. It is generally a good pedagogical device to teach from the easiest function to the hardest. An analysis of the order of difficulty of the tests utilized in this investigation should therefore have implications for later teaching procedure. Table II presents the order of difficulty of the various tests for all pupils of all ages used.

TABLE II

Order of Difficulty of Various Functions
Tested. Pooled Pupils; All Ages

Tests	1	2	3a	3b	3c	4a	4b	4c	5	8	10a	10b
N	387	348	337	330	328	341	336	336	328	311	295	246
Items	15	24	14	10	10	14	12	18	28	14	67	64
M score	11.82	20.97	12.96	9.21	8.23	11.31	7.97	11.61	20.98	8.21	35.99	33.09
% correct items	.788	.874	.926	.921	.823	.808	.664	.645	.749	.586	.537	.517
S.E.	.021	.018	.014	.015	.021	.023	.026	.026	.029	.028	.029	.032

The rank order of difficulty of the tests in Table II is as follows:

1. 3a Letter-card matching (Capitals)
2. 3b " " " (Small Capitals)
3. 2 Picture-card matching
4. 3c Letter-card matching (lower case)
5. 4a Word Matching
6. 1 Picture matching test
7. 5 Rhyming test
8. 4b Word-card matching (Capital)
9. 4c " " " (lower case)
10. 8 Initial Sound Test
11. 10a Motor Coordination
12. 10b " "

This rank order of difficulty was derived by ranking the tests in the order of the highest average per cent correct items to the lowest average per cent correct items on each test. Therefore, the easiest test was 3a while the most difficult was 10b. This order is not highly stable when the Standard Errors of the percents is taken into account, although the differences between the percents are usually greater than their Standard Errors. To discover whether this rank order of difficulty was appreciably different for various age levels Tables III, IV, and V were prepared.

Table III presents the rank order of difficulty (in terms of average per cent correct for each of the tests) for three age groups; four years five months and under in Table III; four years six months to five years five months in Table IV; and five years six months to six years five months in Table V.

The rank order of difficulty of the tests in Table II is as follows:

1.	3a	Letter-card matching	(Capital)
2.	3b	" " "	" " (Small Capital)
3.	3	Picture-card matching	
4.	3c	Letter-card matching	(lower case)
5.	4a	Word matching	
6.	1	Picture matching test	
7.	2	Matching test	
8.	3d	Word-card matching	(Capital)
9.	4b	" " "	" " (lower case)
10.	2	Initial sound test	
11.	1a	Letter identification	
12.	10b	" " "	

This rank order of difficulty was derived by ranking the tests in the order of the highest average per cent correct from the lowest average per cent correct from each test. Therefore, the easiest test was 3a while the most difficult was 10b. This order is not strictly stable when the standard errors of the percentages are taken into account, although the differences between the percentages are usually greater than their standard errors. To discover whether this rank order of difficulty was consistently different for various age levels Tables III, IV, and V were prepared. Table III presents the rank order of difficulty (in terms of average per cent correct for each of the tests) for three age groups: four years five months and under in Table III; four years six months to five years five months in Table IV; and five years six months to six years five months in

Table V.

TABLE III

Order of Difficulty of Various Functions
Pooled Pupils; Ages: 4-5 and Under

Tests	1	2	3a	3b	3c	4a	4b	4c	5	8	10a	10b
N	15	15	15	15	15	13	11	11	6	8	13	13
Items	15	24	14	10	10	14	12	18	28	14	67	64
M score	10.47	15.20	11.33	7.73	6.80	9.31	5.64	10.1	14.3	5.25	23.31	31.61
% correct items	.698	.633	.807	.773	.680	.665	.470	.561	.511	.375	.348	.494
S.E. %	.118	.124	.101	.108	.120	.131	.150	.149	.204	.171	.132	.139

TABLE IV

Order of Difficulty of Various Functions
Pooled Pupils; Ages: 4-6 to 5-5

Tests	1	2	3a	3b	3c	4a	4b	4c	5	8	10a	10b
N	207	197	185	179	180	181	172	173	177	156	1125	123
Items	15	24	14	10	10	14	12	18	28	14	67	64
M score	11.43	20.70	12.71	9.05	8.14	10.82	7.57	10.88	19.55	7.60	33.20	33.29
% correct items	.762	.862	.908	.905	.814	.773	.631	.604	.698	.543	.495	.520
S.E. %	.029	.024	.021	.022	.029	.031	.037	.037	.035	.040	.045	.045

TABLE V

Order of Difficulty of Various Functions

Pooled Pupils; Ages: 5-6 to 6-5

Tests	1	2	3a	3b	3c	4a	4b	4c	5	8	10a	10b
N	141	133	136	129	129	132	131	133	126	130	118	118
Items	15	24	14	10	10	14	12	18	28	14	67	64
M score	12.45	21.96	13.45	9.60	8.53	11.70	8.69	12.71	22.73	8.98	39.47	37.63
% correct items	.830	.915	.961	.960	.853	.836	.724	.706	.812	.641	.589	.588
S.E. %	.01	.024	.019	.019	.031	.032	.039	.039	.035	.042	.045	.045

The small number of cases in Table III casts strong doubt as to the representativeness of the data. It can readily be seen that the Standard Errors of the percents are so great as to indicate almost complete lack of stability in the percents. The differences between the percents are entirely overshadowed by the Standard Errors which attach to the them.

The situation is considerably more stable in Table IV where the number of cases is sufficiently large to make the Standard Errors appreciably smaller than those appearing in Table III. The same stability which appears in Table IV is continued in Table V where the number of cases continue to be relatively large.

That the rank order of difficulty of the various functions as revealed in the test battery is quite stable at all age levels is shown in Table VI in which are reproduced the intercorrelations (ρ) between the rank orders displayed in all four of the foregoing tables.

TABLE VI

Intercorrelations Between Rankings of Order of Difficulty of Various Functions in Tables II to V

Tables	II	III	IV	V
II	1.00	.86	.99	1.00
III	.86	1.00	.89	.87
IV	.99	.89	1.00	.99
V	1.00	.87	.99	1.00

From the intercorrelations shown in Table VI it is readily discernable that the rank order of difficulty of the tests utilized in this investigation is quite stable. The lowest correlation is that which is found between Tables II and III. When it is realized that an extremely small number of cases constitute the data in Table III and that the Standard Errors of the percents were extremely high it is quite questionable whether the correlation discovered accurately represents the facts. In the light of the findings in the later tables it seems quite plausible that the true correlation coefficient is similar to the others in Table VI.

Tables II to VI have certain implications for reading readiness programs which seem to merit attention. The rank order of difficulty of functions listed after Table II above would seem to be the most desirable order in which to attack the teaching of a readiness program. While this is true for the tests involved and for the population upon which they were tried, there is room for valid criticism of a too sanguine transfer of the implications of these results to the teaching situation. It is quite possible that the rank order of difficulty displayed here is more a function of

TABLE VI

Intercorrelations Between Ranks of Order of
Difficulty of Various Functions in Tables II to V

Tables	II	III	IV	V
II	1.00	.86	.99	1.00
III	.86	1.00	.88	.87
IV	.99	.88	1.00	.99
V	1.00	.87	.99	1.00

From the intercorrelations shown in Table VI it is readily discernible that the rank order of difficulty of the tests differed in this investigation in quite stable. The lowest correlation is that which is found between Tables II and III. When it is recalled that an extremely small number of cases constitute the data in Table III and that the standard errors of the percents were extremely high it is quite questionable whether the correlation discovered accurately represents the facts. In the light of the findings in the other tables it seems quite advisable that the correlation coefficient is similar to the others in Table VI.

Tables II to VI have certain limitations for reading readiness purposes which seem to merit attention. The rank order of difficulty of functions listed after Table II above would seem to be the most desirable one in which to attack the teaching of a readiness program. While this is true for the tests involved and for the population upon which they were tried, there is room for valid criticism of a too hasty transfer of the implications of these results to the teaching situation. It is quite possible that the rank order of difficulty displayed here is more a function of

the characteristics of the particular tests used than it is a function of learning of the various functions. This problem can only be solved by experimentation. One factor, however, which would tend to reinforce the idea of transfer is that the long fore-exercises to the tests really constituted a learning situation with the tests merely measuring the amount learned during the fore-exercise. Because of this the rank order of difficulty of various functions found may be indicative of the order of difficulty with which the various functions may be learned by children in the age group tested.

Reading tests which do not discriminate between various age groups would be of little value. It is obvious that the older the child the better he should perform on a reading readiness test (assuming that the functions tested are affected by increasing age). To discover whether the tests utilized here have adequate step-up intervals between age groups Table VII is presented.

TABLE VII

Mean Scores for Each Age
Group on Twelve Tests

Age Groups	1	2	3a	3b	3c	4a	4b	4c	5	8	10a	10b
4-5 and under	10.47	15.20	11.33	7.73	6.80	9.31	5.64	10.10	14.30	5.25	23.31	31.61
4-6 to 5-5	11.43	20.70	12.71	9.05	8.14	10.82	7.57	10.88	19.55	7.60	33.20	33.29
5-6 to 6-5	12.45	21.96	13.45	9.60	8.53	11.70	8.69	12.71	22.73	8.98	39.47	37.63

In every test in the battery there is a step-up interval between age groups.

In no case is a test harder for a five year old than it is for a four year

the characteristics of the particular tests used then it is a function of learning of the various functions. This problem can only be solved by experimentation. One factor, however, which would seem to reinforce the idea of transfer is that the four fore-exercises of the tests really constituted

a learning situation with the tests really measuring the amount learned during the fore-exercises. Because of this the order of difficulty of various functions found may be indicative of the order of difficulty with which the various functions may be learned by children in the age group tested.

Reading tests which do not distinguish between various age groups would be of little value. It is obvious that the child the better he should perform on a reading readiness test (assuming that the functions tested are affected by increasing age). To discover whether the tests utilized here have distinguished intervals between age groups Table VII is presented.

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Mean Scores for Each Age Group on Twelve Tests

Age Group	1	2	3a	3b	4a	4b	5	6	7	8	9	10	11	12
4-5 and under	10.47	12.33	11.25	7.78	6.89	8.21	8.24	10.14	12.70	8.23	12.21	11.61	10.47	12.33
4-5 to 6-5	11.43	20.70	12.71	9.33	8.14	10.88	7.67	11.88	12.33	7.53	12.33	12.33	11.43	20.70
6-5 to 8-5	11.43	21.93	12.45	9.60	8.23	11.70	8.23	12.71	12.70	8.23	12.70	12.70	11.43	21.93

In every test in the battery there is a step-up interval between age groups. In no case is a test higher for a five year old than it is for a four year

old or harder for a six year old than for a five year old. Nevertheless in instances the step-up interval is quite small as in the case of tests 3b and 3c where the step up interval is less than one point of raw score. In revising the tests, however, this may readily be cleared up by lengthening the test. In both the instances cited the total number of items in the tests was only ten. In Tables II through V the total number of items in each test is given. By inspection it can be readily seen that the poor step-up intervals appear in those tests which are in need of being lengthened. This factor can be taken care of in revision. Another aspect of the problem is the fact that even four year olds succeed in obtaining initial scores which are too high. This can be avoided by removing those items which are non-discriminating, i. e., in which an inordinately high percentage of children make the correct response or which fail to discriminate between various age groups. The standard deviations which attach to the mean scores presented in Table V have not been computed but inspection of the original data would indicate that they would be fairly high. The implication of high standard deviations is that the differences between the means are not statistically reliable. This obstacle can, however, be overcome in the manner suggested above, viz., by lengthening the tests and by removing the non-discriminating items.

It is a well established fact that there is a much higher incidence of reading disability among boys than there is among girls. For this reason it was thought desirable to compare the results obtained by boys with those obtained by the girls on these reading readiness tests. Table VIII presents the results of a comparison of mean scores obtained on the twelve tests by both boys and girls along with the standard deviations, standard

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sents the results of a comparison of mean scores obtained on the twelve
tests by both boys and girls along with the standard deviations. standard

errors and critical ratios.

TABLE VIII

Mean Scores, Measures of Variability and Error
of Boys and Girls to Point Out Sex Differences

Test	Girls					Boys					Diff	diff	diff/ Diff
	N	Mean	mm	mm	N	Mean	mm	mm	mm	mm			
4a	161	11.27	3.00	.24	165	10.97	2.85	.22	.30	.33			.91
1	181	12.04	2.95	.22	182	11.58	3.09	.23	.46	.32			1.44
2	172	21.09	1.64	.13	173	20.82	4.27	.33	.27	.35			.77
3a	173	13.09	1.43	.11	163	12.69	2.68	.21	.40	.24			1.66
3b	169	9.25	1.19	.09	154	9.17	1.54	.12	.08	.15			.53
3c	168	8.36	1.53	.12	156	8.11	1.31	.11	.25	.16			1.56
4b	163	8.05	2.11	.17	151	7.89	2.83	.23	.16	.29			.55
4c	165	11.76	3.26	.25	152	11.47	3.90	.32	.29	.41			.71
5	158	20.61	6.44	.51	151	20.87	7.04	.57	-.26	.76			.34
8	156	8.13	3.37	.27	138	8.16	3.51	.30	-.03	.40			.07
10a	131	34.98	17.09	1.50	125	36.22	17.08	1.53	-1.24	2.14			.58
10b	130	33.07	16.03	1.41	124	36.47	18.07	1.63	-4.40	2.15			2.05

An examination of Table VIII reveals no significant difference (when one considers a critical ratio of three as denoting statistical significance). Differences nevertheless exist although they are all attributable to chance fluctuations. The first eight differences are in favor of the girls with the critical ratios below one in five instances. In tests 1, 3a, and 3c the critical ratios are over one but still fall far short of statistical significance. The last four tests show differences in favor of the boys although here again none of the differences are statistically significant. In the last test (10b) the largest difference occurs which has a critical ratio of over two, the highest in the table. It has been suggested that because

this test deals with motor coordination its manipulative aspect appealed to the boys thereby introducing motivation in access of that enjoyed by the girls. It would seem, however, from this table as a whole, that the obvious sex differences displayed at later levels in reading do not have their genesis at the low age level of the population represented here. The small number of cases utilized do not, however, allow any broad generalization on this matter.

While mental ages were not obtained for all the subjects used a small number of Stanford-Binet mental ages were available for the children from one school. Table IX presents the test results according to mental age levels.

Table IX is merely a recapitulation in terms of mental age groups of the data shown in Tables II, III, IV and V. The number of cases in Table IX are so small as to cast grave doubt upon the validity of the results. This is particularly true on the 3-6 to 4-5 level where only two cases are shown. If this inadequate representation is overlooked the tests show a commendable degree of step-up between mental age groups. The data shown can only be considered as suggestive but they are indicative of the same features shown, when the data were presented in terms of chronological age groups. Therefore, the recommendations made for a change in the tests in the discussions following the early Tables apply to the same degree in the present situation.

Table IX is merely a recapitulation in terms of mental age groups of the data shown in Tables II, III, IV and V. The number of cases in Table IX are so small as to cast grave doubt upon the validity of the results. This is particularly true in the 2-3 to 4-5 level where only two cases are shown. If this inadequate representation is overlooked the tests show a considerable degree of step-wise between mental age groups. The data shown can only be considered as suggestive but they are indicative of the same features shown when the data were presented in terms of chronological age groups. Therefore, the representations made for a change in the tests in the discussion following Table IX are solely in the same degree in the present situation.

CHAPTER IV

Summary And Conclusions

The purpose of this investigation was the construction of a battery of reading readiness tests and their evaluation after administration to a school population within the age range of between four years and six years five months. Twelve tests were included in the final battery dealing with those factors which have been found in previous investigations to be predictive of later reading achievement. The main factors dealt with in the battery were those of visual and auditory discrimination of pictures and word or letter forms. The tests were given to 387 children in the schools of a large metropolitan area which, while not completely randomized, may be considered fairly typical of children in the pre-reading situation. The data obtained from this administration of the tests was analyzed statistically with the following conclusions:

1. The tests discriminate well between the various chronological age groups of the population tested.
2. The rank order of difficulty of the various functions tested were revealed to be stable at all chronological age levels of the population upon which the tests were administered.
3. There were no statistically significant differences between the results obtained by the boys and the girls on the twelve tests in the battery.
4. The tests discriminate fairly well between the various mental age groups of the small population upon which there were mental age data.

Certain other conclusions of a subjective nature were revealed in the administration of the tests to the children:

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The purpose of this investigation was the determination of a battery of reading readiness tests and their evaluation after administration to a school population within the age range of between four years and six years and five months. Twelve tests were included in the final battery dealing with those factors which have been found in previous investigations to be predictive of later reading achievement. The main factors dealt with in the battery were those of visual and auditory discrimination of pictures and words or letter forms. The tests were given to 337 children in the schools of a large metropolitan area which, while not completely nondescript, may be considered fairly typical of children in the pre-reading situation. The data obtained from this administration of the tests was analyzed statistically with the following conclusions:

1. The tests discriminate well between the various chronological age groups of the population tested.
2. The rank order of difficulty of the various functions tested were revealed to be variable at all chronological age levels of the population upon which the tests were administered.
3. There were no statistically significant differences between the results obtained by the boys and the girls on the twelve tests in the battery.
4. The tests discriminate fairly well between the various mental age groups of the population upon which there were mental age data.

Certain other conclusions of a subjective nature were revealed in the administration of the tests to the children:

1. More thorough directions than now exist on many reading readiness tests would seem to be desirable.
2. A thorough sample (fore-exercise) is quite desirable and will probably increase test reliability at this low age level.
3. The losing of the place which quite frequently happens while testing small children can be minimized by the use of markers for each child. The children handle the markers easily.
4. If the conditioning theory is a practical one, having the children mark the picture, words, letters etc., with a straight line drawn from left to right will reinforce the idea of the left-to-right progression so necessary in reading and writing. This has not been done in previous readiness tests where children are asked to draw circles around objects or mark them with a cross.
5. The tests, because of the long fore-exercises, are really tests of learning rather than tests of achievement. It would seem plausible to suggest that a high score on a test in the battery would indicate fairly rapid learning while a low score would indicate slow learning.

Besides these subjective conclusions which lack statistical reliability or validity there are certain implications inherent in the statistical analysis:

1. The rank order of difficulty of the tests would imply that a reading readiness program which followed this order in teaching, from the easiest to the hardest, might be attended with a greater degree of success than one more logically conceived.
2. The data obtained on the differences existing between girls' and boys' performances on the tests would indicate that the large differences found later do not have their genesis in the pre-reading situation.

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CHAPTER V

Suggestions For Further Research

1. The children used in this study should be followed for the next three years and their reading achievement scores on standard reading tests recorded each year. Product-moment correlations should be computed between achievement and the scores on the twelve readiness tests used in this investigation in order to ascertain which of the twelve tests had the highest prediction power and whether any one test predicted better than a composite score for the battery as a whole.
2. An item analysis should be made of the items in all the tests in the existing battery. Those items found to be non-discriminative should be discarded and new items constructed. At the same time several of the shorter tests should be lengthened. The revised battery should then be administered to a thoroughly randomized population and a study similar to the present one made again. The predictive power of the new instruments should then be ascertained.
3. A study should be made to discover the effect of the long sample exercises which precede the main tests. Two groups should be chosen and paired for chronological age, mental age and I. Q., as well as linguistic background (bilingual et.) To one group the tests would be given with the sample exercises, to the other would be given tests which have merely one illustrative example.
4. It would be of interest to discover the effect of bilingual background upon success on these readiness tests. The method of paired groups should be utilized with bilingual background as the independent variable. To do the study in an adequate quantitative manner some objective measure of bilinguality for small children would need to be constructed.

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3. A study should be made to discover the effect of the sample exercises which precede the main tests. Two groups should be chosen and paired for chronological age, mental age and I.Q., as well as linguistic background (bilingual or not). To one group the tests would be given with the sample exercises, to the other without. The tests which have merely one illustrative exercise.
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SELECTED BIBLIOGRAPHY

1. Calvert, E. T., "Predicting Accomplishment in Beginning Reading", California Journal of Elementary Education, 34-44, 193.
2. Dean, Charles D., "Predicting First Grade Reading Achievement", Elementary School Journal, 39: 609-616, (1939).
3. Deputy, E. C., Predicting First Grade Reading Achievement, Contributions to Education, No. 426, Bureau of Publications, Teachers College, Columbia University, New York, (1930).
4. Dunklin, H. T., The Prevention of Failure in First Grade Reading, Contributions to Education, No. 802, Bureau of Publications, Teachers College, Columbia University, New York, (1940).
5. Gates, A. I., "An Experimental Evaluation of Reading Readiness Tests", Elementary School Journal, 39: 497-508, (1939).
6. Gates, A. I., "A Further Evaluation of Reading Readiness Tests", Elementary School Journal, 40: 577-591, (1940).
7. Gates, A. I., and Boeker, E., "A Study of Initial Stages in Reading By Pre-School Children", Teachers College Record, 24: 469-488, (1933).
8. Gates, A. I., and Bond, G. L. et al., Methods of Determining Reading Readiness, Bureau of Publications, Teachers College, Columbia University, New York, (1939).
9. Gates, A. I., and Bond, G. L., "Reading Readiness: A Study of Factors Determining Success or Failure in Beginning Reading", Teachers College Record, 37: 679-685, (1936).
10. Gates, A. I., and Taylor, G. A., "The Acquisition of Motor Control in Writing by Pre-School Children", Teachers College Record, 459-468, (1923).
11. Fendrick, P. and McGlade, C. A., "A Validation of Two Prognostic Tests of Reading Aptitude", Elementary School Journal, 38: 187-194, (1938).
12. Harrison, M. L., Reading Readiness, Revised and Enlarged Edition, Houghton Mifflin Company, Boston, (1939).
13. Hildreth, G. H., "Diagnostic Testing For Beginning Reading", Educational Method, 14: 373-379, (1935).

SELECTED BIBLIOGRAPHY

1. Calvert, M. T., "Predicting Accomplishment in Beginning Reading," California Journal of Elementary Education, 34-35, 1933.
2. Dean, Charles D., "Predicting First Grade Reading Achievement," Elementary School Journal, 38: 609-616, (1933).
3. Hefner, E. C., "Predicting First Grade Reading Achievement," Contributions to Education, No. 435, Bureau of Publications, Teachers College, Columbia University, New York, (1933).
4. Kunkin, E. L., "The Prediction of Failure in First Grade Reading," Contributions to Education, No. 302, Bureau of Publications, Teachers College, Columbia University, New York, (1940).
5. Gates, A. I., "An Experimental Evaluation of Reading Readiness Tests," Elementary School Journal, 37: 437-508, (1933).
6. Gates, A. I., "A Further Evaluation of Reading Readiness Tests," Elementary School Journal, 40: 577-581, (1940).
7. Gates, A. I., and Foster, L., "A Study of Latent States in Reading by Pre-School Children," Teachers College Record, 34: 403-433, (1933).
8. Gates, A. I., and Bond, C. L., Methods of Determining Reading Readiness, Bureau of Publications, Teachers College, Columbia University, New York, (1933).
9. Gates, A. I., and Bond, C. L., "Reading Readiness: A Study of Factors Determining Success or Failure in Beginning Reading," Teachers College Record, 37: 670-685, (1933).
10. Gates, A. I., and Taylor, G. A., "The Elimination of Motor Control in Writing by Pre-School Children," Teachers College Record, 43: 459-464, (1933).
11. Wendler, P., and Nichols, C. A., "A Validation of Two Proposals for Reading Aptitude," Elementary School Journal, 38: 187-194, (1933).
12. Harrison, M. L., Reading Readiness, Revised and Enlarged Edition, Houghton Mifflin Company, Boston, (1933).
13. Hildreth, G. H., "A Manual Testing for Beginning Reading," National Methods, 14: 373-375, (1933).

14. Hildreth, G., H. and Griffiths, N. L., Metropolitan Readiness Tests, World Book Company, Yonkers-on-Hudson, New York, (1933).
15. Hilliard, G. H. and Troxell, E., "Informational Background as a Factor in Reading Readiness", Elementary School Journal, 38: 255-263, (1937).
16. Huggett, A. J., "An Experiment in Reading Readiness", Journal of Educational Research, 32: 263-270, (1938).
17. Lee, J. M. and Lee, D. M. and Clark, W. W., "Measuring Reading Readiness", Elementary School Journal, 34: 656-666, (1934).
18. McKee, Paul, Reading and Literature in the Elementary School, Houghton Mifflin Company, Boston, (1934).
19. Monroe, Marion, Reading Aptitude Tests, Houghton Mifflin Company, Boston, (1935).
20. Morphett, M. V. and Washburne, C., "When Should Children Begin to Read", Elementary School Journal, 31: 496-503, (1931).
21. Petty, M. C., "An Experimental Study of Certain Factors Influencing Reading Readiness", Journal of Educational Psychology, 30: 215-230, (1939).
22. Smith, N. B., "Matching Ability as a Factor in First Grade Reading", Journal of Educational Psychology, 19: 560-571, (1928).
23. Teegarden, L., "Tests for the Tendency to Reversal in Reading", Journal of Educational Research, 27: 81-97, (1933).
24. Witty, P. and Kopel, D., "Preventing Reading Disability: The Reading Readiness Factor," Educational Administration and Supervision, 22: 401-418, (1936).
25. Wilson, F. T., "Correlations of Information With Other Abilities and Traits in Grade I", Elementary School Journal, 37: 295-301, (1936).
26. Wilson, F. T., "Correlations of Vocabulary Knowledge With Other Abilities and Traits in Grade I", Elementary School Journal, 37: 451-457, (1937).

14. Hildreth, C. H. and Griffiths, W. L., Metropolitan Reading Tests, World Book Company, Yonkers-on-Hudson, New York, (1933).
15. Hildreth, C. H. and Truesell, E., "Informational Background as a Factor in Reading Readiness", Elementary School Journal, 38: 255-263, (1937).
16. Huggert, A. J., "An Experiment in Reading Readiness", Journal of Educational Research, 32: 225-230, (1938).
17. Lee, J. W. and Lee, D. W. and Clark, W. W., "Elementary Reading Readiness", Elementary School Journal, 34: 655-663, (1934).
18. McKee, Paul, Reading and Literature in the Elementary School, Houghton Mifflin Company, Boston, (1934).
19. Monroe, Marion, Reading Aptitude Tests, Houghton Mifflin Company, Boston, (1933).
20. Mowbray, M. V. and Washburne, C., "When Should Children Learn to Read", Elementary School Journal, 31: 435-503, (1931).
21. Petty, M. C., "An Experimental Study of Certain Factors in Elementary Reading Readiness", Journal of Educational Psychology, 30: 215-230, (1939).
22. Smith, W. B., "Matching Ability as a Factor in First Grade Reading", Journal of Educational Psychology, 18: 353-371, (1926).
23. Teemaster, L., "Tests for the Tendency to Revert to Reading", Journal of Educational Research, 27: 81-97, (1933).
24. Witty, P. and Koppel, B., "Preventing Reading Instability: The Reading Readiness Factor", Educational Administration and Supervision, 23: 451-475, (1935).
25. Wilson, F. T., "Correlations of Information with Other Activities and Tests in Grade I", Elementary School Journal, 37: 345-351, (1936).
26. Wilson, F. T., "Correlations of Vocabulary Knowledge with Other Activities and Tests in Grade I", Elementary School Journal, 37: 451-457, (1936).

27. Wilson, F. T.,
et al., "Sex Differences in Beginning Reading in a
Progressive School", Journal of Educational
Research, 32: 570-582, (1939).
28. Wilson, F. T., and
Flemming, C. W.
et al., "Reading Progress in Kindergarten and Primary
Grades", Elementary School Journal, 38:
442-449, (1938).
29. Wilson, F. T., and
Flemming, C. W., "Symbols Scales for Use in Beginning Reading",
Journal of Psychology, 8: 99-114, (1939).

27. Wilson, F. T., et al., "New Differences in Beginning Reading in Progressive School," <u>Journal of Educational Research</u> , 32: 570-583, (1939).	28. Wilson, F. T., and Fleming, C. W. et al., "Reading Progress in Kindergarten and Primary Classes," <u>Elementary School Journal</u> , 39: 442-449, (1938).	29. Wilson, F. T., and Fleming, C. W., "Symbolic Series for Use in Beginning Reading," <u>Journal of Psychology</u> , 21: 93-114, (1939).
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APPENDIX

THE LITHO CO.

EVFSON BOND

EVFSON BOND

ORDER OF DIRECTIONS

TEST 1: (Picture Matching Test (Six Sample Tests)

(Picture Matching Test Directions

TEST 2: Picture-Card Matching

Booklet: Kettle - flower - bell - coop - gun - boy
box - dog - coat - valentine - girl - wheel
rabbit - door - beets - boat - nest - monkey
bed - clock - telephone - drum - fork - horse

TEST 3-A: Letter-Card Matching

(Large Capital Letters)

3 sheets of large capital key letters

TEST 3-C: Letter-Card Matching

1 sheet of key capital letters

1 sheet of key lower case letters

TEST 4-A: Word-Card Matching

(One direction for sample tests and test 4)

-B: Word-Card Matching

(One direction)

Test 5: Rhyming Test

Santa Claus Picture

- a. Santa Claus Town. (rhyme)
- b. Introductory Rhyme (directions)
- c. Two Rhyming Pictures (directions)

2 sheets of key words

Sheet 1. Sled - bed - tree - doll

Sheet 2. man - boat - bus - fan

TESTS: Initial Sound Test

Introductory Picture or Pictures

Introductory Rhyme (Directions)

Initial Sound Test with Pictures (directions)

1 sheet key words - coat - cup - shoe - cart or box -
ball - boat - house

TEST 10: Motor Coordinator (directions)

1. Duck

2. Christmas Tree

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TESTS OF RECOGNITION

TEST 1: Picture-Object Test (Six Object Tests)

Picture-Object Test (Six Object Tests)

TEST 2: Picture-Object Test (Six Object Tests)

Object: Picture-Object Test (Six Object Tests)
Box - box - box - box - box - box - box - box
Ball - ball - ball - ball - ball - ball - ball - ball
Book - book - book - book - book - book - book - book
Cat - cat - cat - cat - cat - cat - cat - cat
Dog - dog - dog - dog - dog - dog - dog - dog
Fish - fish - fish - fish - fish - fish - fish - fish
Horse - horse - horse - horse - horse - horse - horse - horse
Lion - lion - lion - lion - lion - lion - lion - lion
Monkey - monkey - monkey - monkey - monkey - monkey - monkey - monkey
Pig - pig - pig - pig - pig - pig - pig - pig
Rabbit - rabbit - rabbit - rabbit - rabbit - rabbit - rabbit - rabbit
Sheep - sheep - sheep - sheep - sheep - sheep - sheep - sheep
Tiger - tiger - tiger - tiger - tiger - tiger - tiger - tiger
Wolf - wolf - wolf - wolf - wolf - wolf - wolf - wolf

TEST 3-4: Picture-Object Test (Six Object Tests)

(Picture-Object Test)

Picture-Object Test (Six Object Tests)

TEST 5-6: Picture-Object Test (Six Object Tests)

Picture-Object Test (Six Object Tests)
I know of key capital letters
I know of key lower case letters

TEST 7-8: Picture-Object Test (Six Object Tests)

(The direction for each test is as follows)

TEST 9: Picture-Object Test (Six Object Tests)

(The direction for each test is as follows)

TEST 10: Picture-Object Test (Six Object Tests)

Object: Picture-Object Test (Six Object Tests)
Box - box - box - box - box - box - box - box
Ball - ball - ball - ball - ball - ball - ball - ball
Book - book - book - book - book - book - book - book
Cat - cat - cat - cat - cat - cat - cat - cat
Dog - dog - dog - dog - dog - dog - dog - dog
Fish - fish - fish - fish - fish - fish - fish - fish
Horse - horse - horse - horse - horse - horse - horse - horse
Lion - lion - lion - lion - lion - lion - lion - lion
Monkey - monkey - monkey - monkey - monkey - monkey - monkey - monkey
Pig - pig - pig - pig - pig - pig - pig - pig
Rabbit - rabbit - rabbit - rabbit - rabbit - rabbit - rabbit - rabbit
Sheep - sheep - sheep - sheep - sheep - sheep - sheep - sheep
Tiger - tiger - tiger - tiger - tiger - tiger - tiger - tiger
Wolf - wolf - wolf - wolf - wolf - wolf - wolf - wolf

TEST 11: Picture-Object Test (Six Object Tests)

(Picture-Object Test)

(Picture-Object Test)

(Picture-Object Test)

I know of key words - word - word - word - word - word - word - word - word

Ball - ball - ball - ball - ball - ball - ball - ball

TEST 12: Picture-Object Test (Six Object Tests)

I. Data

Picture-Object Test

Picture-Object Test
Picture-Object Test
Picture-Object Test

DIRECTIONS FOR EXAMINER

Test children in groups of six. Separate children to avoid copying. (Explain the value of each child marking his own pictures.) Use word "game" instead of "test".

The child may use a crayon to underline picture if the examiner desires. The heavy crayon line helps to clarify the procedure, and tends to present a clear definite picture of the test; when it is completed. The children may be encouraged to look at the finished test and comment on it.

Return test with the child's full name and age. Send tests collect using the enclosed envelope.

DIRECTIONS FOR EXAMINER

Test children in groups of six. Separate children to avoid copying. (Explain the value of each child making his own picture.) Use word "game" instead of "test".

The child may use a crayon to underline picture if the examiner desires. The heavy crayon line helps to clarify the procedure, and tends to present a clear definite picture of the test; when it is completed, the children may be encouraged to look at the finished test and comment on it.

Return test with the child's full name and age. Send tests collected using the enclosed envelope.

Test 1.

PICTURE MATCHING TEST

(Six Sample Tests)

DIRECTIONS

Six boxes of pictures are introduced to teach the child:

The meaning of the word ALIKE or SAME
The technique of drawing lines under the pictures
The technique of using a marker

The Examiner points to the first box of pictures.

"Can you find the box of pictures? Let's count the pictures:

ONE TWO THREE FOUR

"Look! Count again:

ONE TWO THREE FOUR

Examiner watches each child to see that he touches the pictures.

"Two of these pictures are alike. Find the two pictures that are alike. Draw a line under the two pictures that are alike."

If the child fails, the Examiner says.

"This flower and this flower are alike - (pointing to the pictures). Does the CAT look like this flower? No. Does the CAT'S FACE look like this flower. No. This flower and this flower are alike." That is why we draw a line under the two flowers. The child receives similar help in Tests 2, 3, 4, 5, 6.

The sample tests are not scored.

PICTURE MATCHING TEST

(Six Sample Tests)

Directions

(Read Instructions)

Six boxes of pictures are introduced to each child:

The meaning of the word ALIKE or SAME
The technique of drawing lines under the pictures
The technique of making a number

The Examiner points to the first box of pictures.

"Can you find the box of pictures? Let's count the pictures:

ONE TWO THREE FOUR

"Look! Count again:

ONE TWO THREE FOUR

Examiner watches each child to see that he touches the pictures.

"Two of these pictures are alike. Find the two pictures that are alike. Draw a line under the two pictures that are alike."

If the child fails, the Examiner says:

"This flower and this flower are alike - (pointing to the pictures). Does the CAT look like this flower? No. Does the CAT look like this flower? No. This flower and this flower are alike. That is why we draw a line under the two flowers. The child receives similar help in tests 2, 3, 4, 5, 6.

The sample tests are not scored.

Test 1.

PICTURE MATCHING TEST

DIRECTIONS

"Put your marker down to find the first box of pictures. Let's count the pictures:

ONE TWO THREE FOUR

Look! Count again:

ONE TWO THREE FOUR

The Examiner watches to see that each child points to the picture.

"Two of the pictures are alike. Find the two pictures that are alike. Draw a line under the two pictures that are alike."

From this point, the Examiner works down the page. In each case the procedure is according to the above directions.

1

Score: Number right

The Test is discontinued after 5 consecutive failures.

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Test 1.
 REVERSE MATCHING TEST
 DIRECTIONS

"Put your finger down to find the first box of pictures. Let's count the pictures:

ONE TWO THREE FOUR

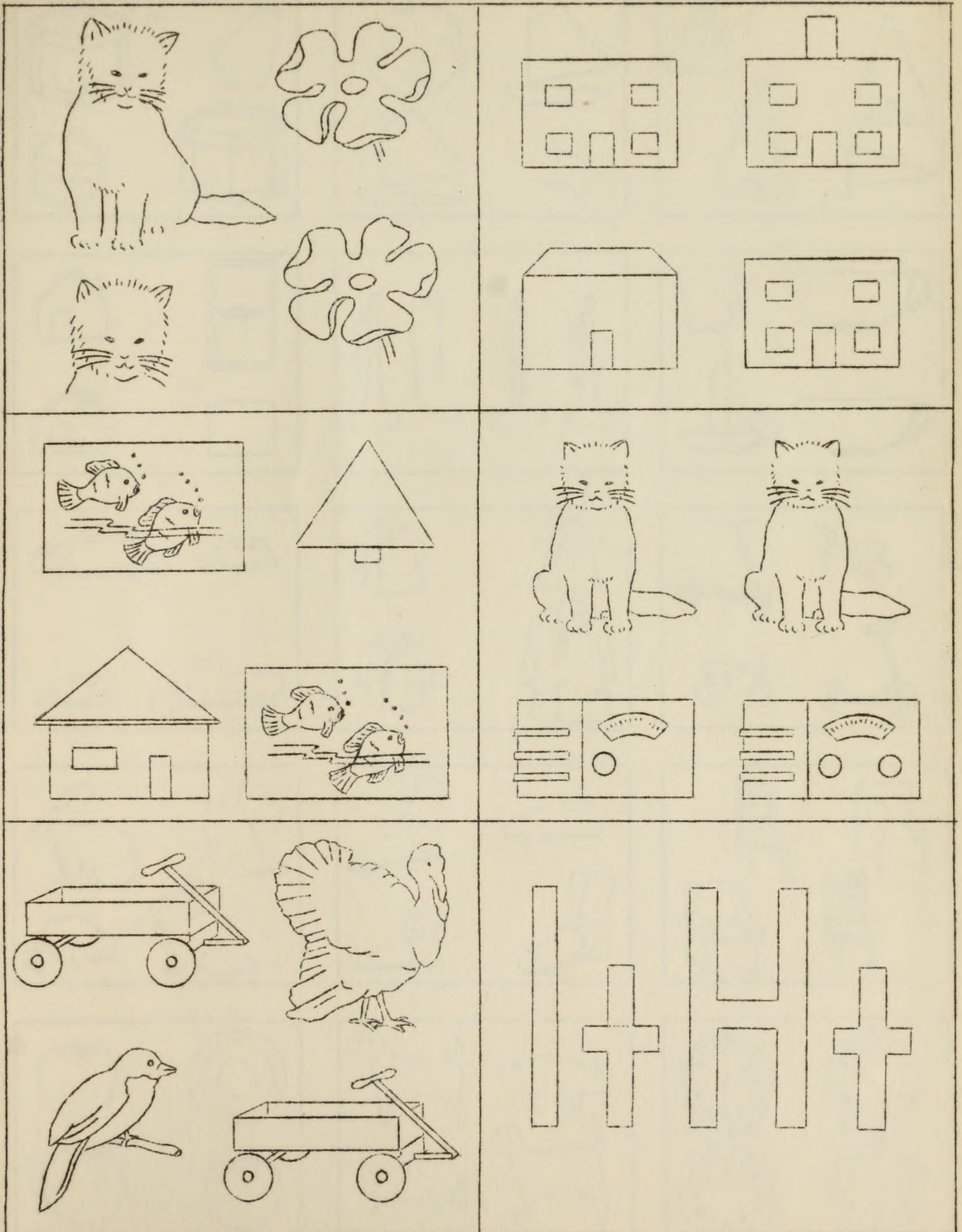
Look! Count again:

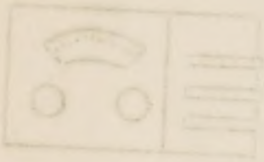
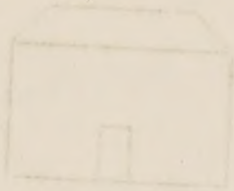
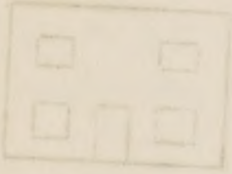
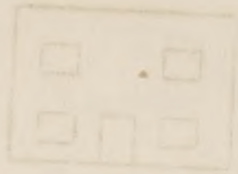
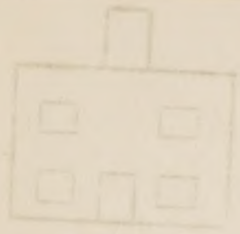
ONE TWO THREE FOUR

The examiner watches to see that each child points to the picture.
 "Two of the pictures are alike. Draw a line under the two pictures that are alike."
 From this point, the examiner works down the page. In each case the procedure is according to the above directions.

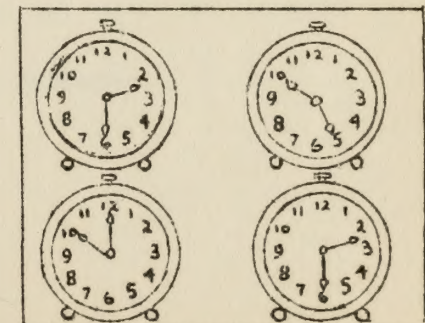
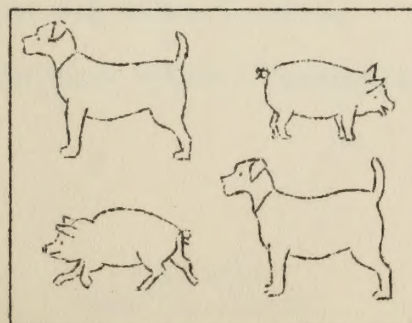
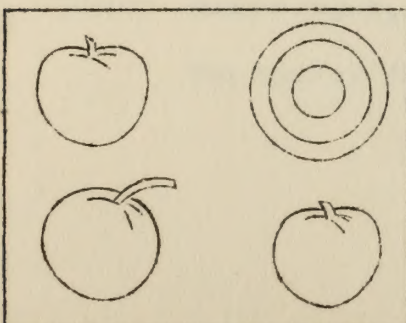
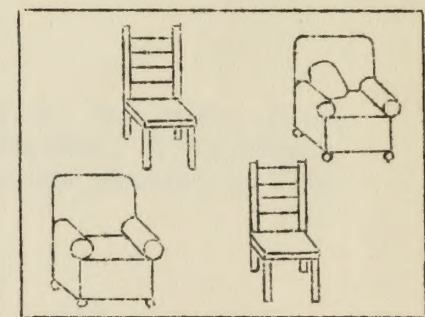
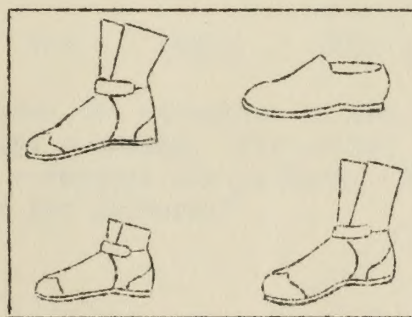
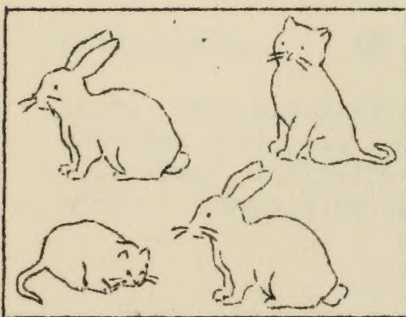
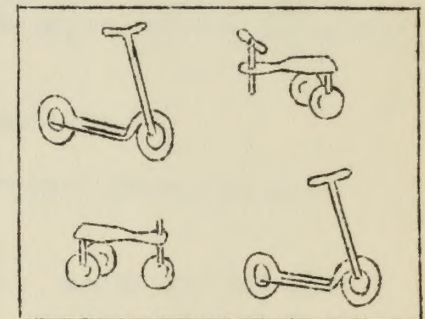
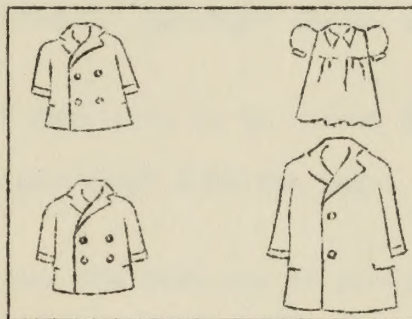
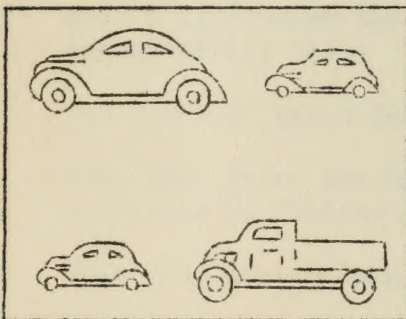
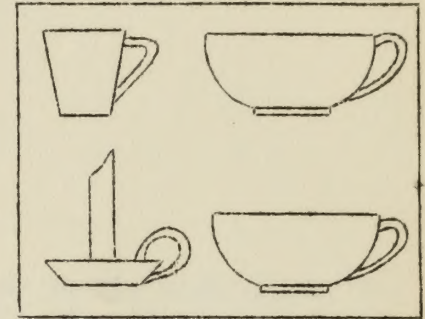
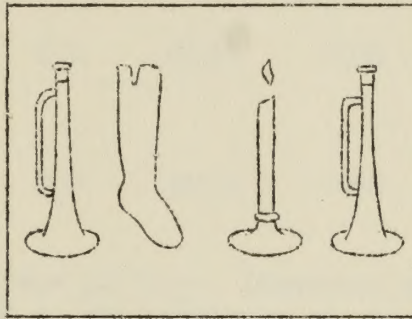
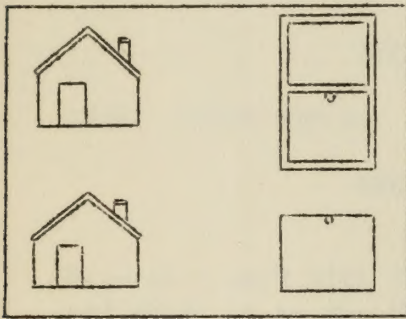
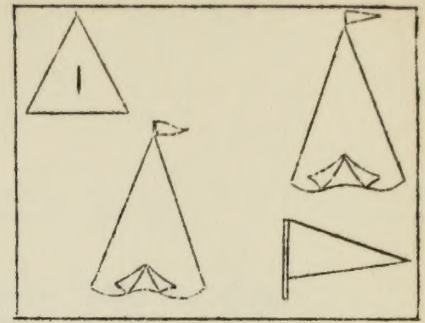
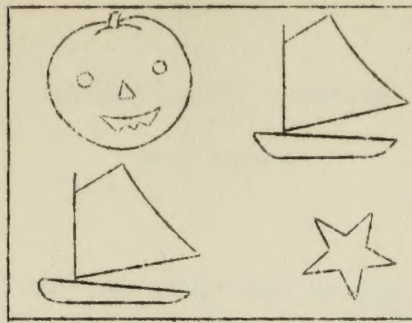
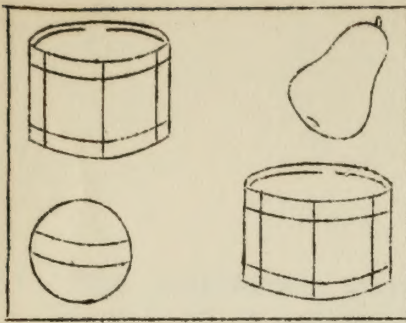
Score: Number right
 The test is discontinued after 8 consecutive failures.

Prepared by
 The Committee
 on Mental
 Testing
 Boston University





TEST I.





Test 2.

PICTURE-CARD MATCHING

DIRECTIONS

"Put your marker down to see the first row of pictures. (The Examiner points to it and helps each child locate it on his test paper). Let's count the pictures:

ONE TWO THREE FOUR

Look! Count again:

ONE TWO THREE FOUR

Here is a card with just one picture. (Examiner holds up the enlarged card and shows it to the child as she continues to give the directions. There is no time limit in this Test or in Test 2). Find the picture on your paper. Draw a line under the picture". Examiner checks each paper, giving the child the necessary help.

The Examiner gives Test 2 according to the above directions.

From this point the Examiner works down the page. In each case, the procedure is as follows:

"Put your marker down to see the next row of pictures. Count the pictures:

ONE TWO THREE FOUR

Count again: ONE TWO THREE FOUR

Look! (The Examiner secures the attention of the child. She holds up the enlarged pictures, - counts silently, "fifty-one, fifty-two, fifty-three, fifty-four, fifty-five," - removes the picture. Find the picture on your paper. Draw a line under the picture."

Score: Number right, including Tests 1 and 2.

The test is discontinued after 5 consecutive failures.

STANDARD-TEST MATERIALS

DIRECTIONS

Put your marker down to see the first row of pictures. (The Examiner points to it and helps each child focus it on his paper). Let's count the pictures:

ONE TWO THREE FOUR

Look! Count again:

ONE TWO THREE FOUR

Here is a card with just one picture. (Examiner holds up the enlarged card and shows it to the child as she continues to give the directions. There is no time limit in this test or in Test 2.) Find the picture on your paper. Draw a line under the picture. (Examiner shows each paper, giving the child the necessary help.)

The Examiner gives Test 2 according to the above directions.

From this point the Examiner works down the paper. In each case, the procedure is as follows:

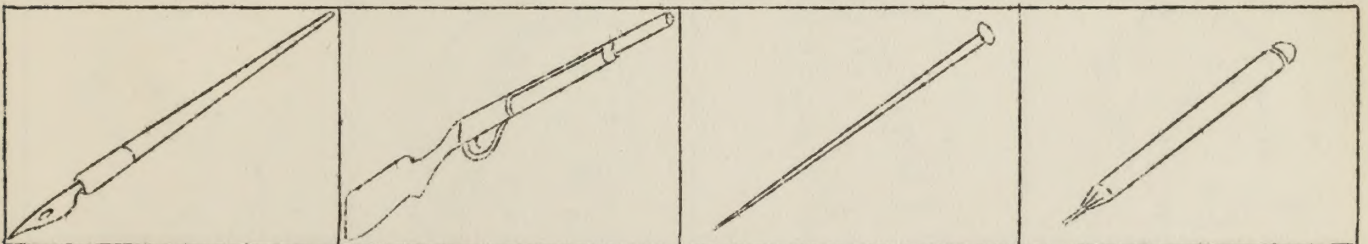
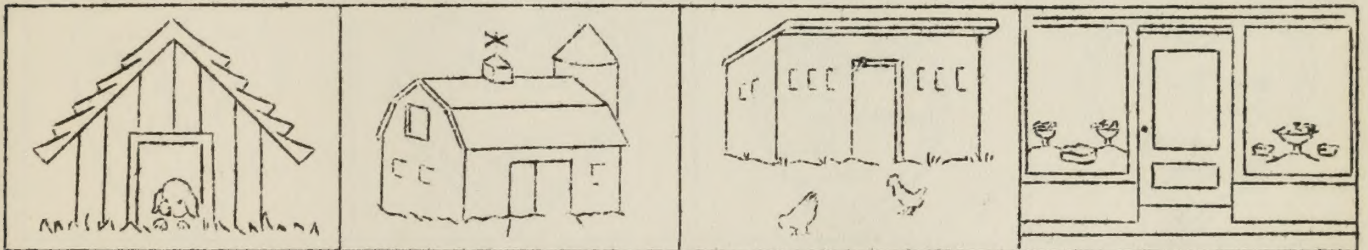
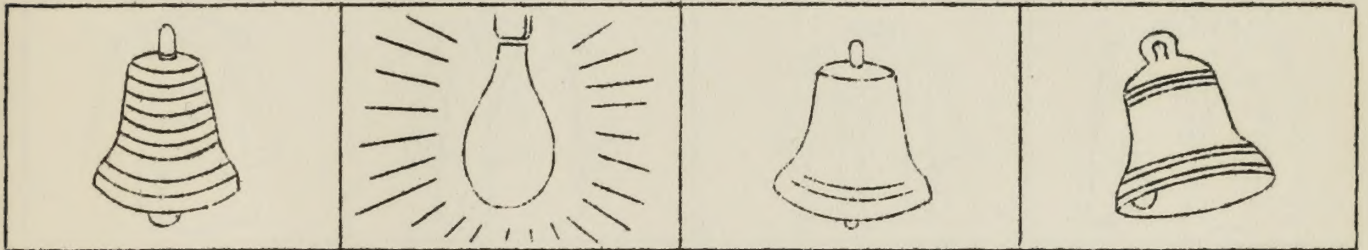
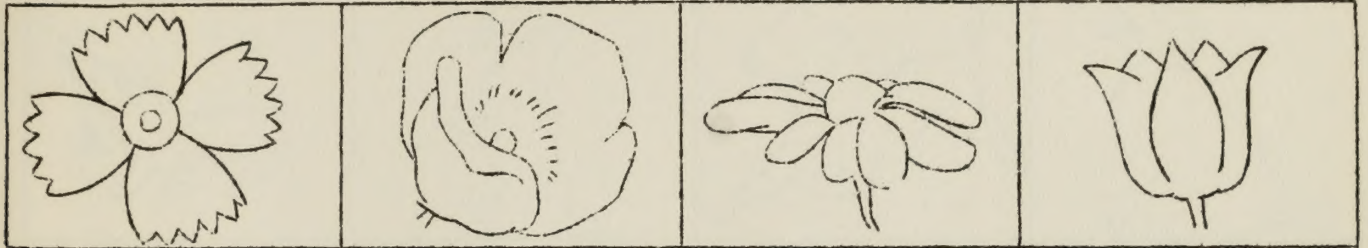
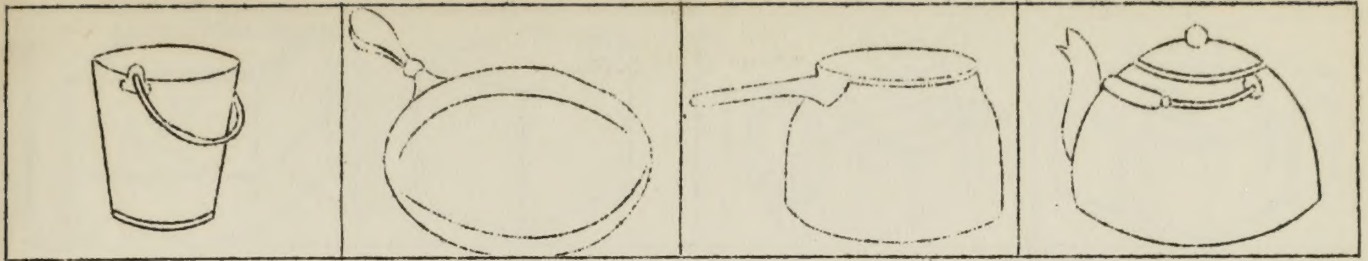
Put your marker down to see the next row of pictures. Count the pictures:

ONE TWO THREE FOUR

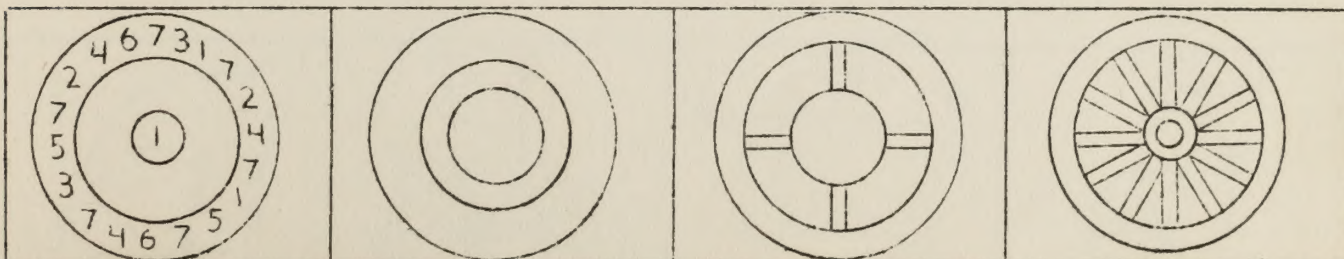
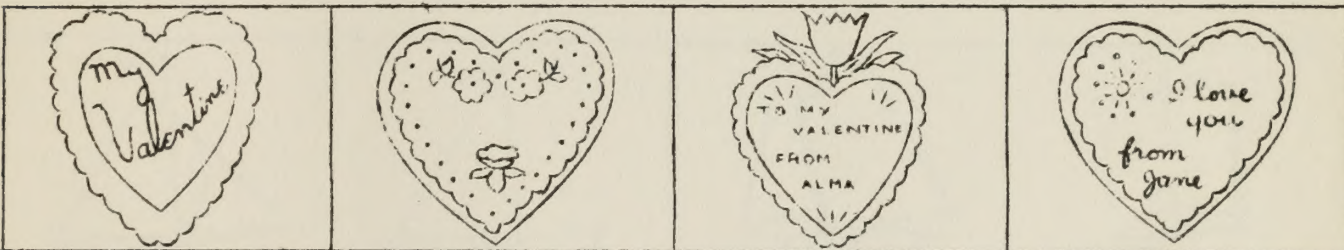
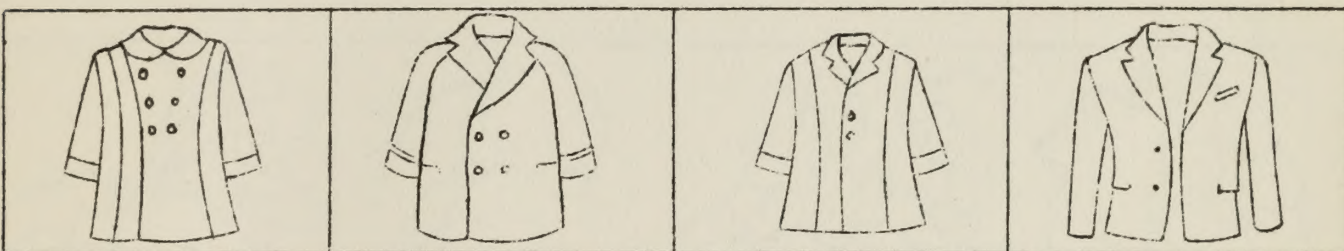
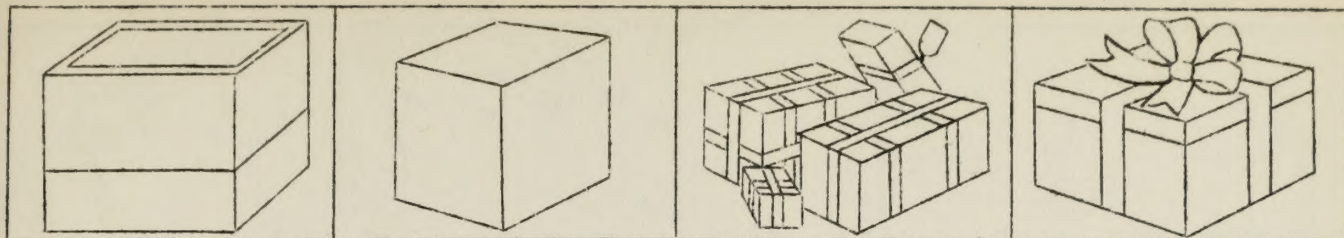
Count again: ONE TWO THREE FOUR
Look! (The Examiner secures the attention of the child. She holds up the enlarged picture - thirty-one, thirty-two, thirty-three, thirty-four, thirty-five. - removes the picture. Find the picture on your paper. Draw a line under the picture.)

Source: National Society, including Tests 1 and 2.

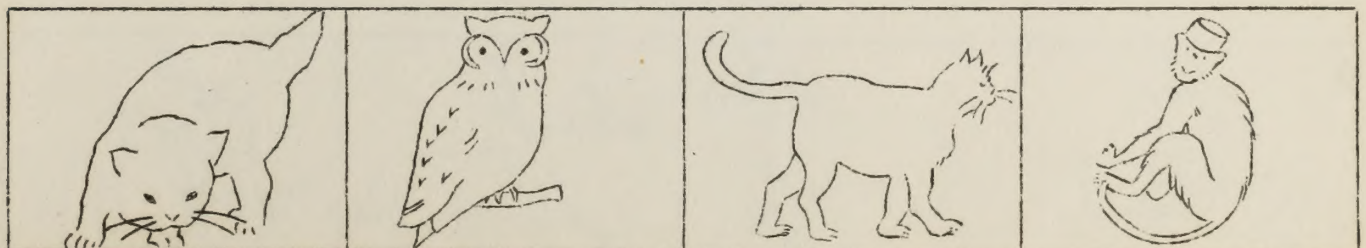
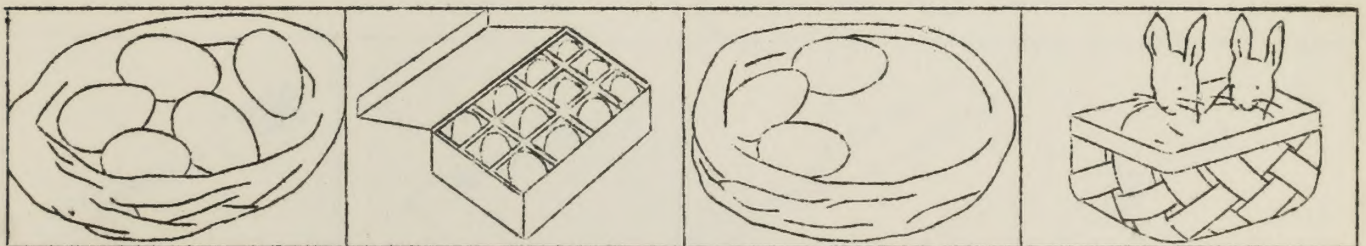
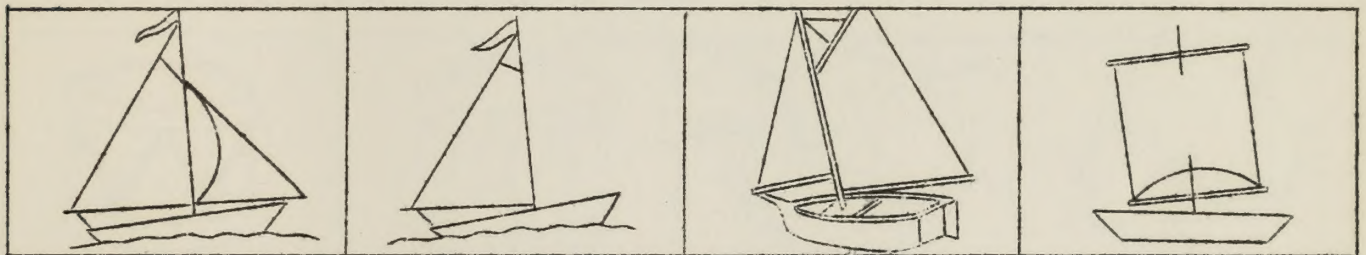
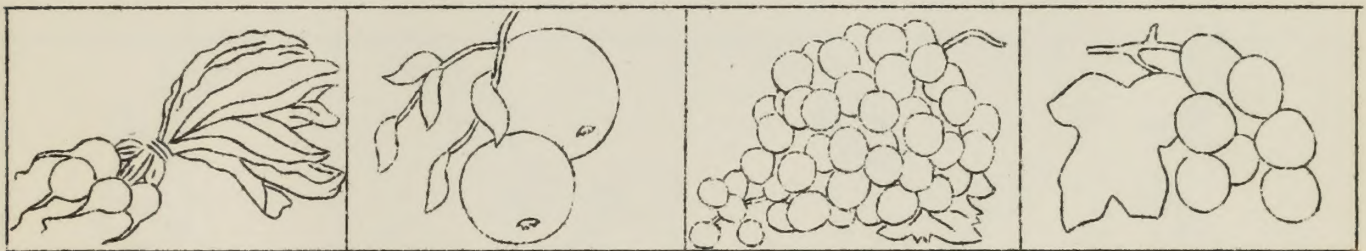
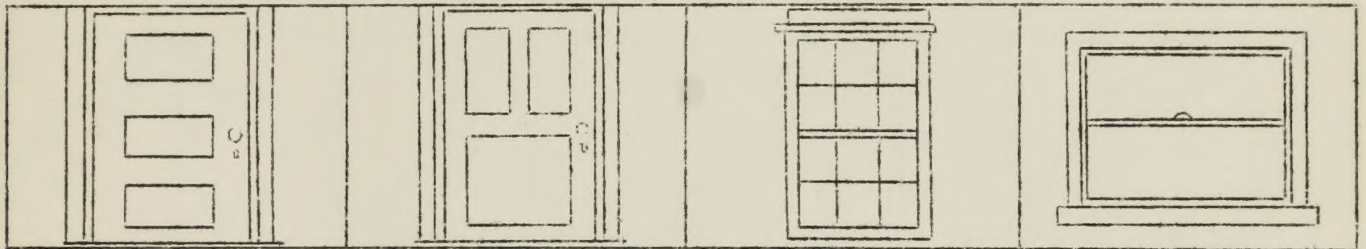
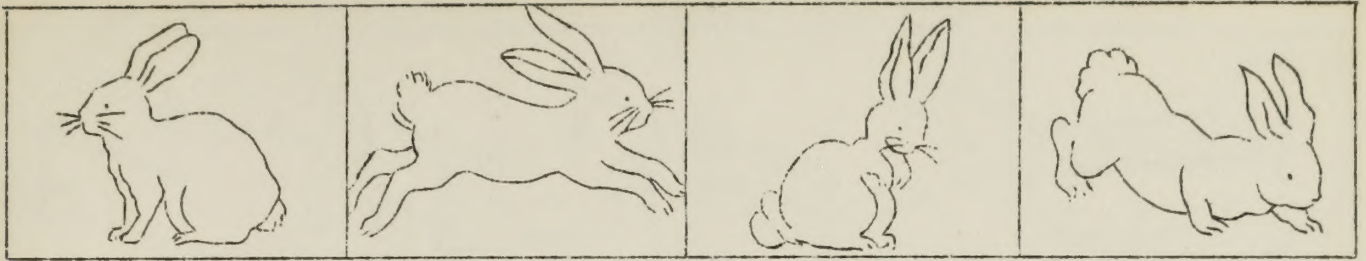
The test is discontinued after 5 consecutive failures.



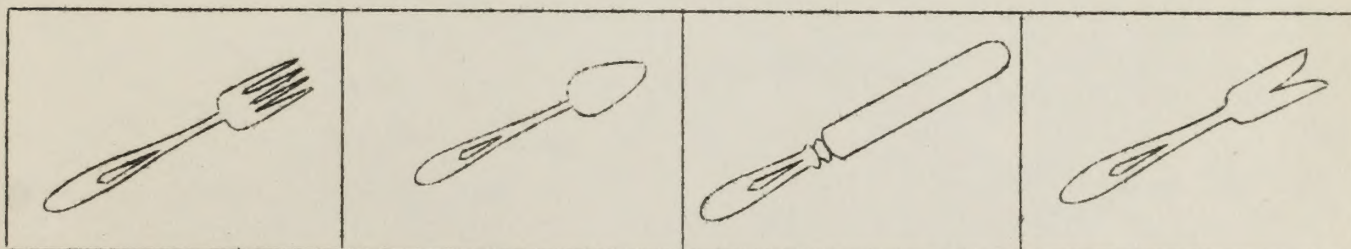
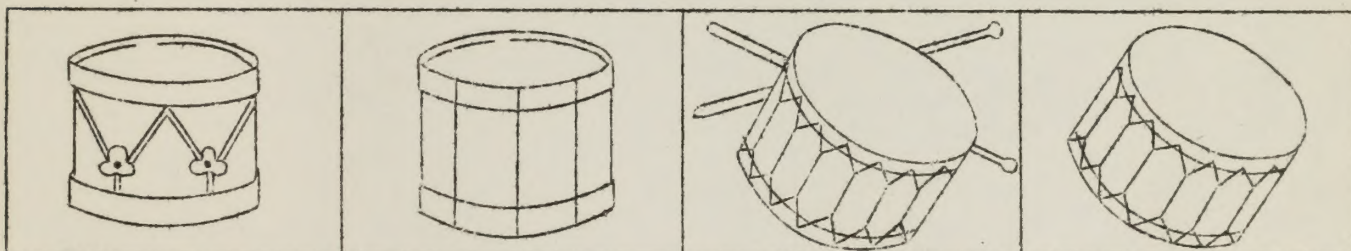
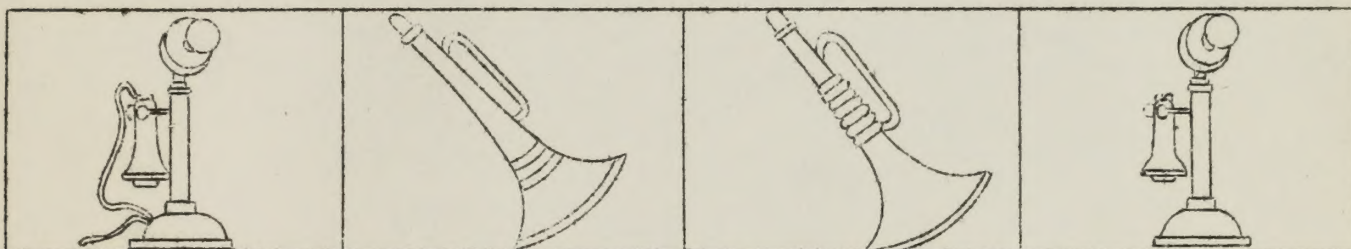
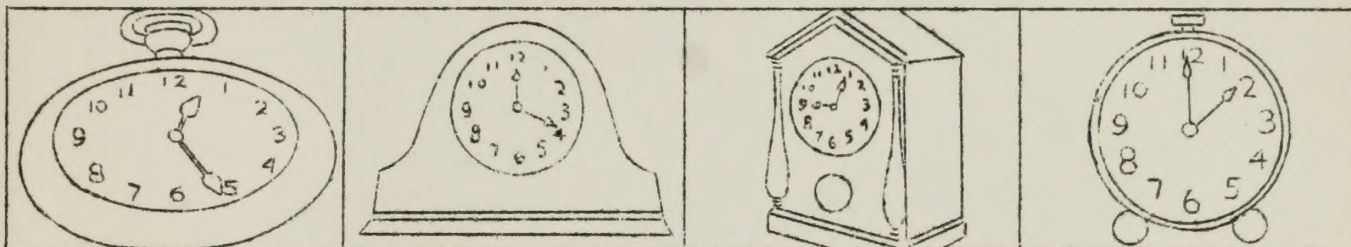
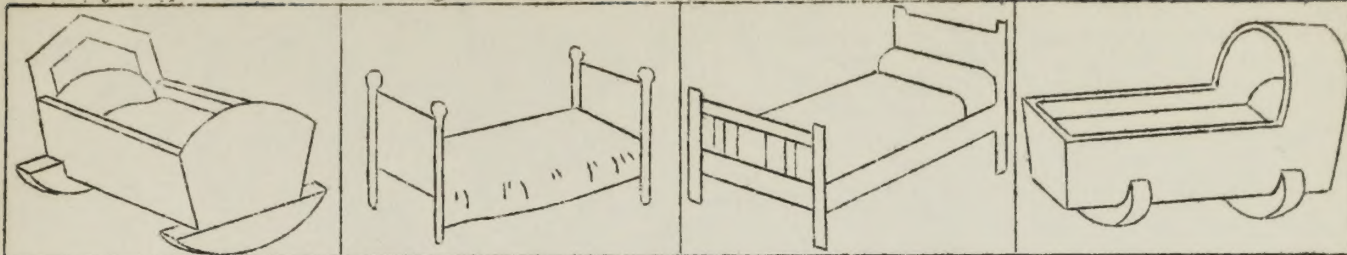














PICTURE -CARD MATCHING

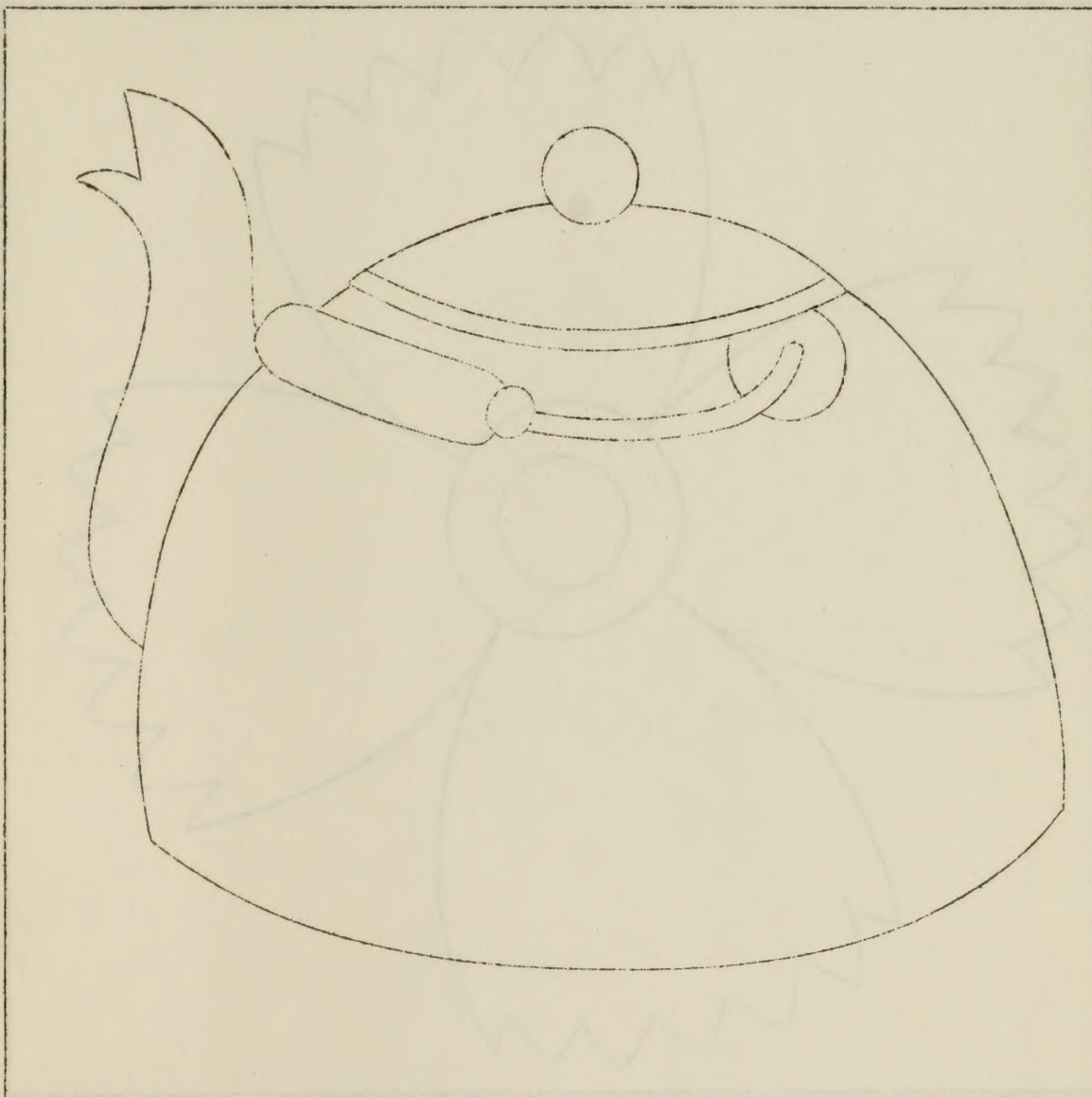
TEST 2

This test has 24 Enlarged Pictures. The Pictures may be mounted on Card-board and compiled into a book, with large rings.

PICTURE - 0100 MARCH 1961

1961

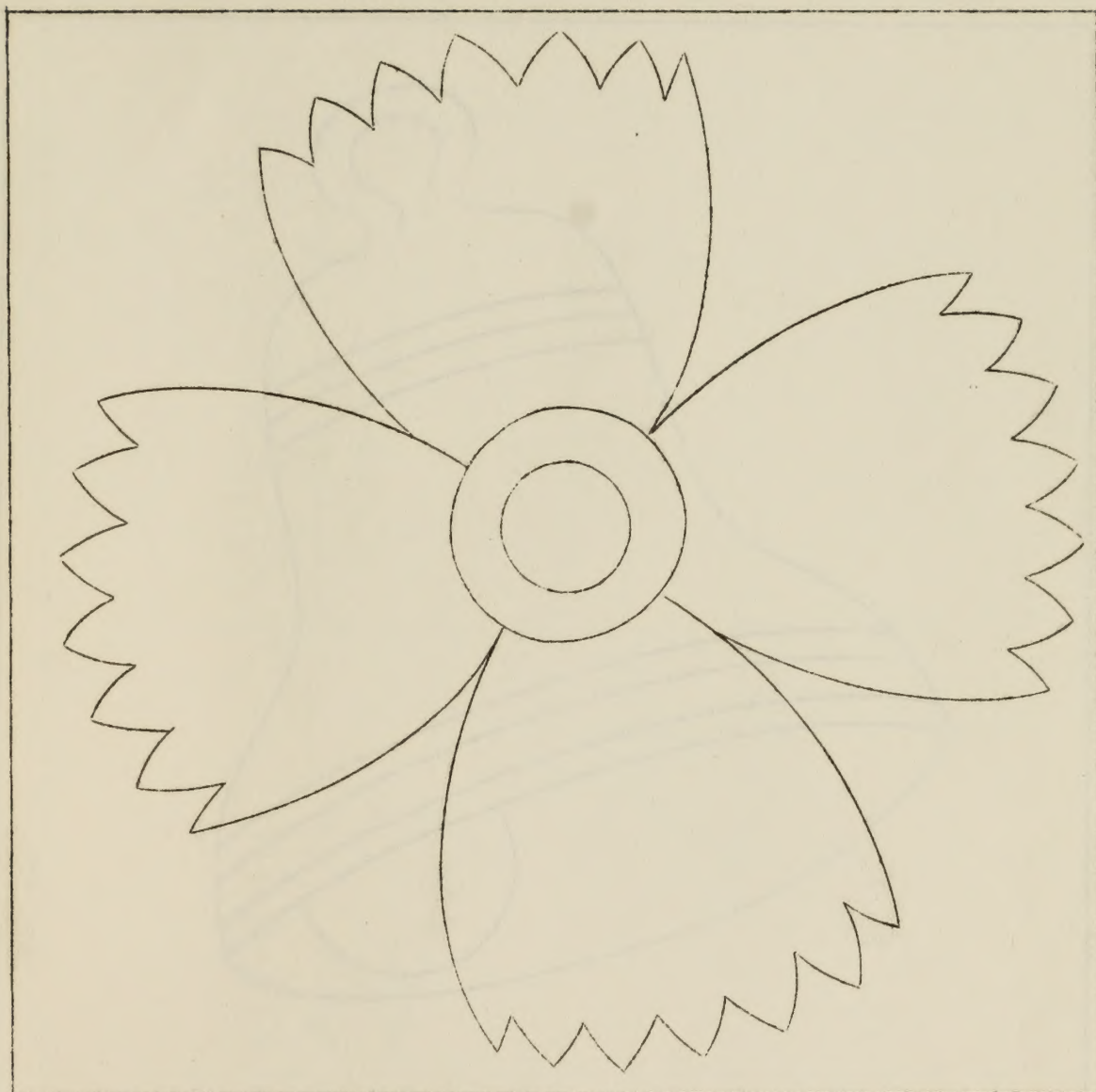
This test was an enlarged picture. The picture was enlarged
on card-board and mounted into a book, which is now in the
collection of the National Archives.



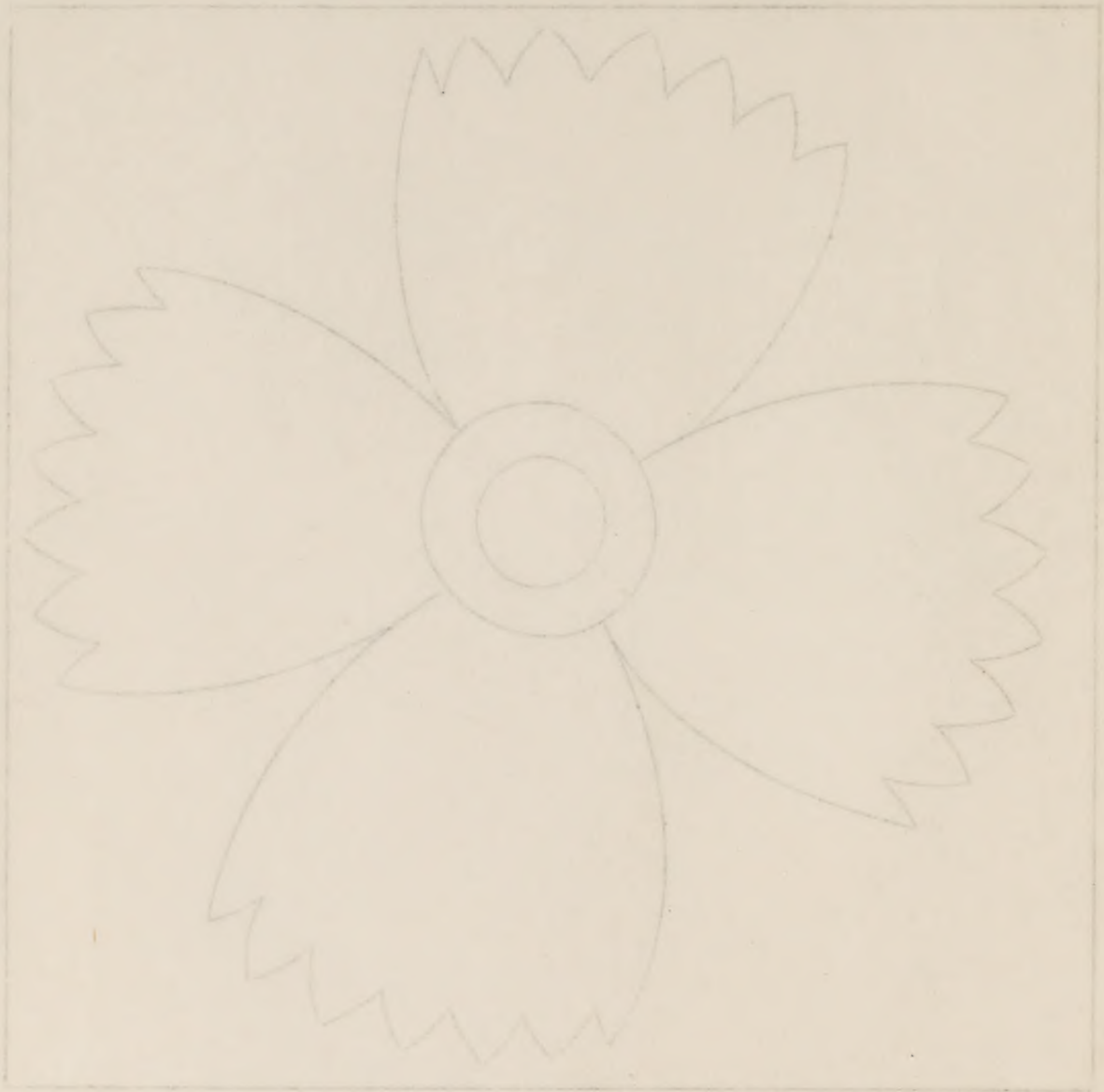
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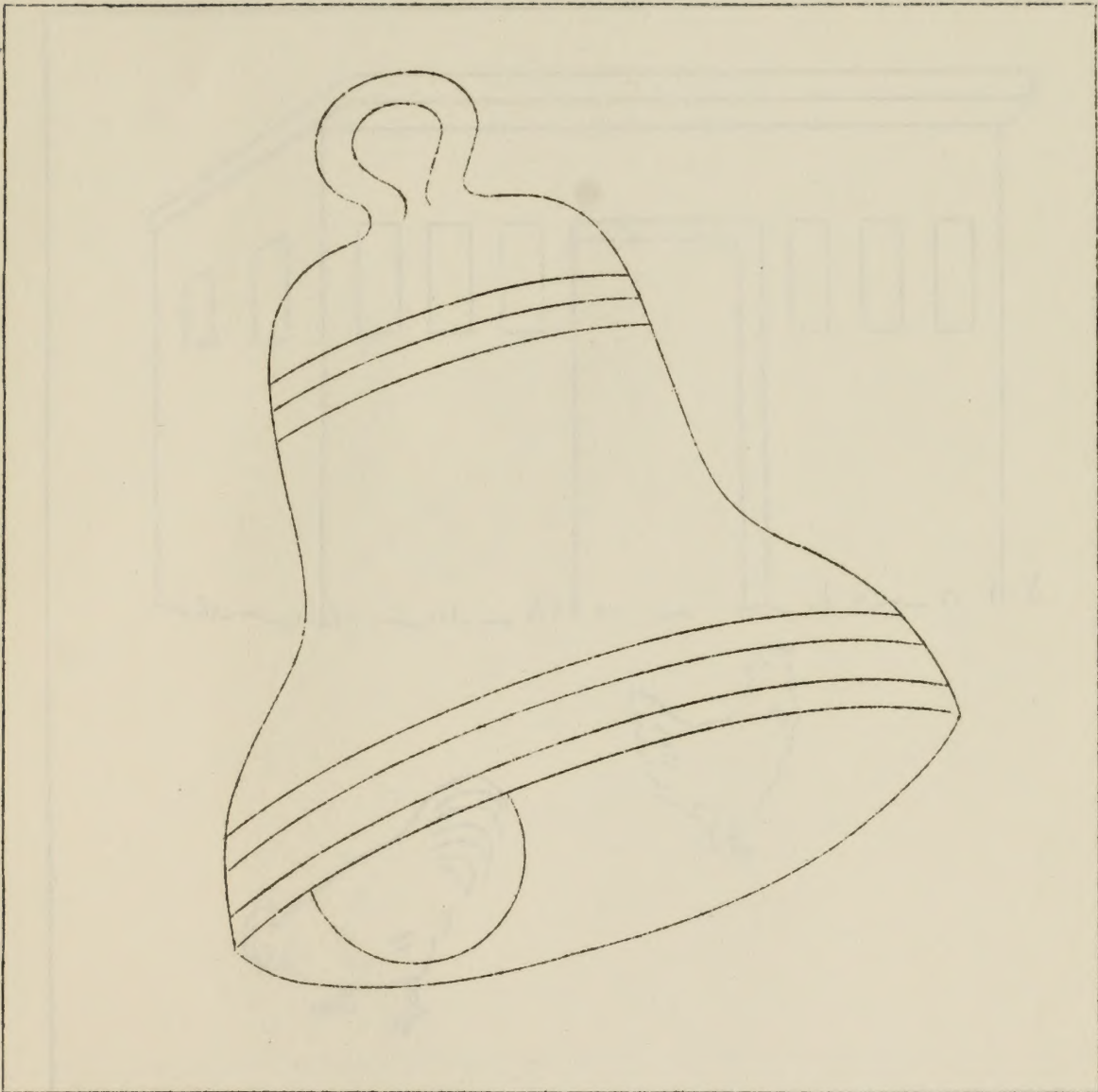
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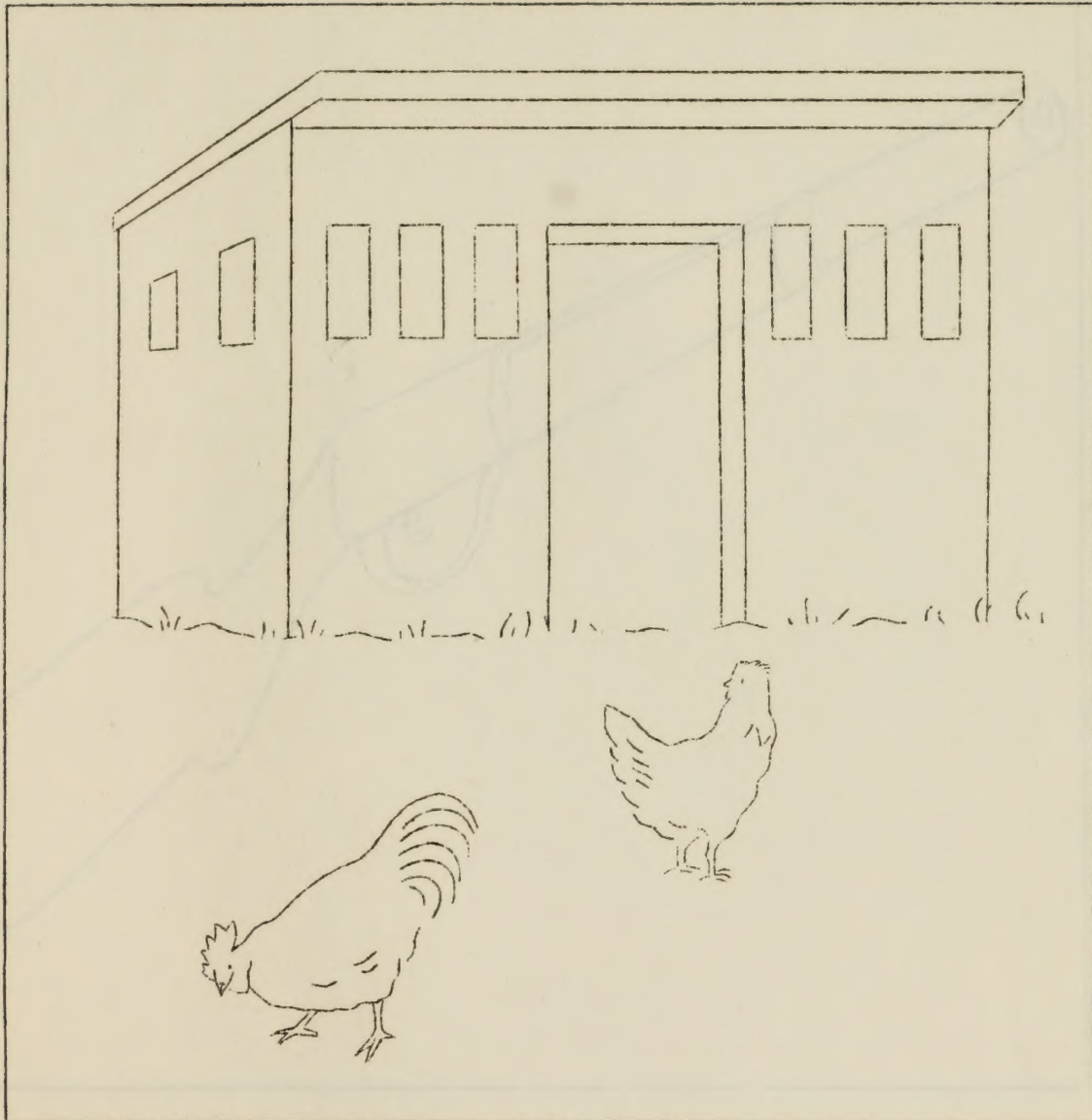
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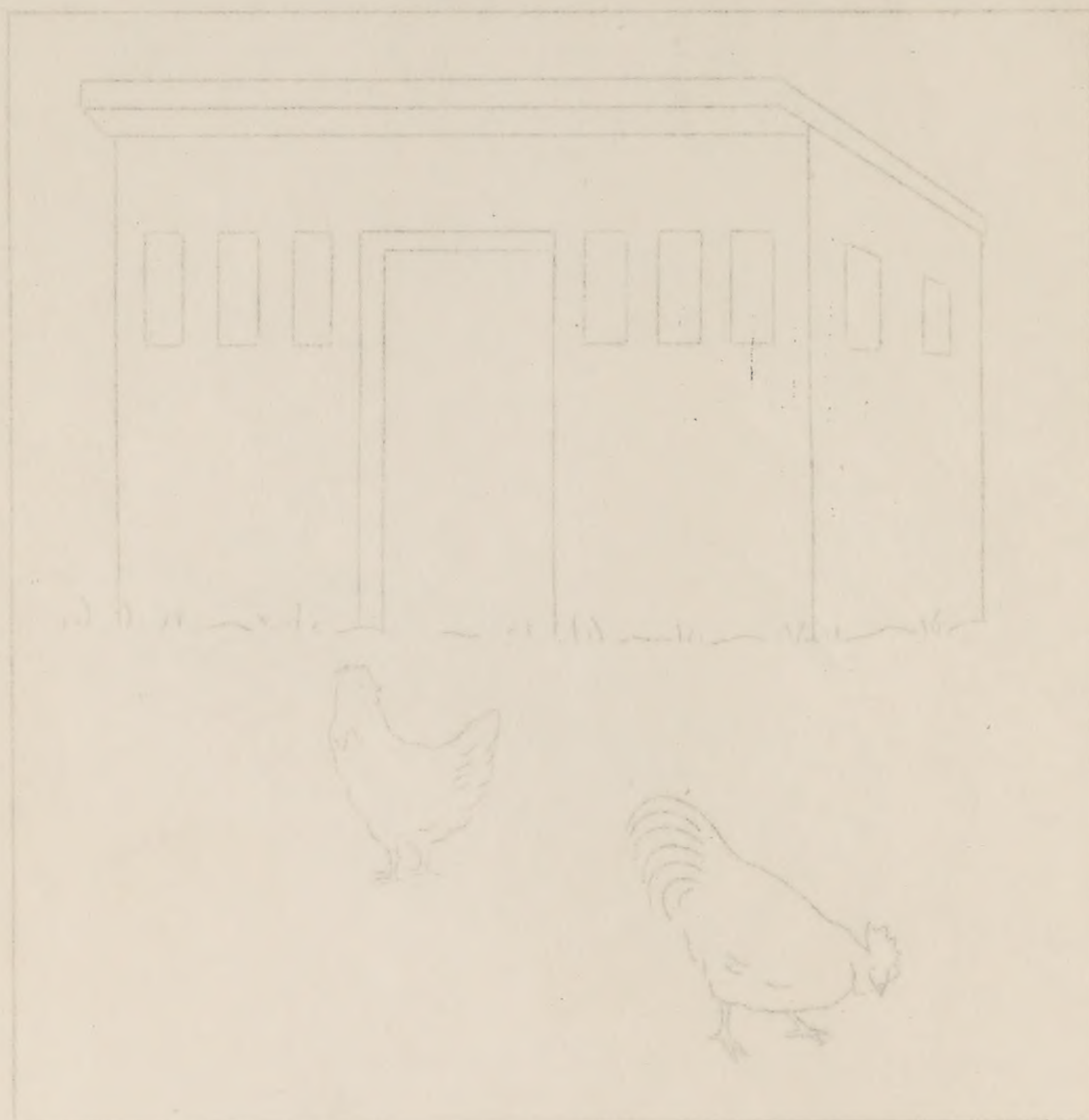


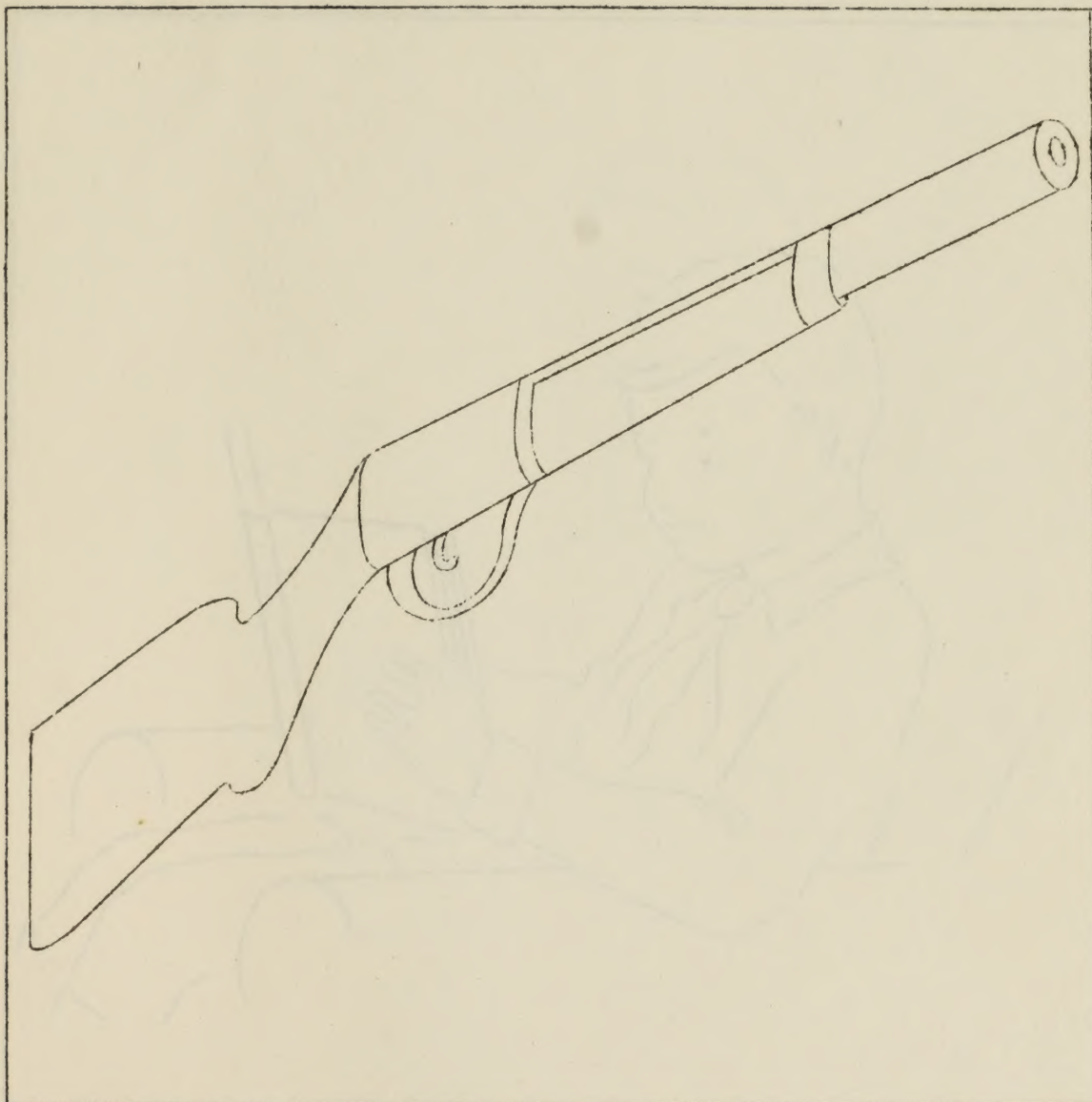
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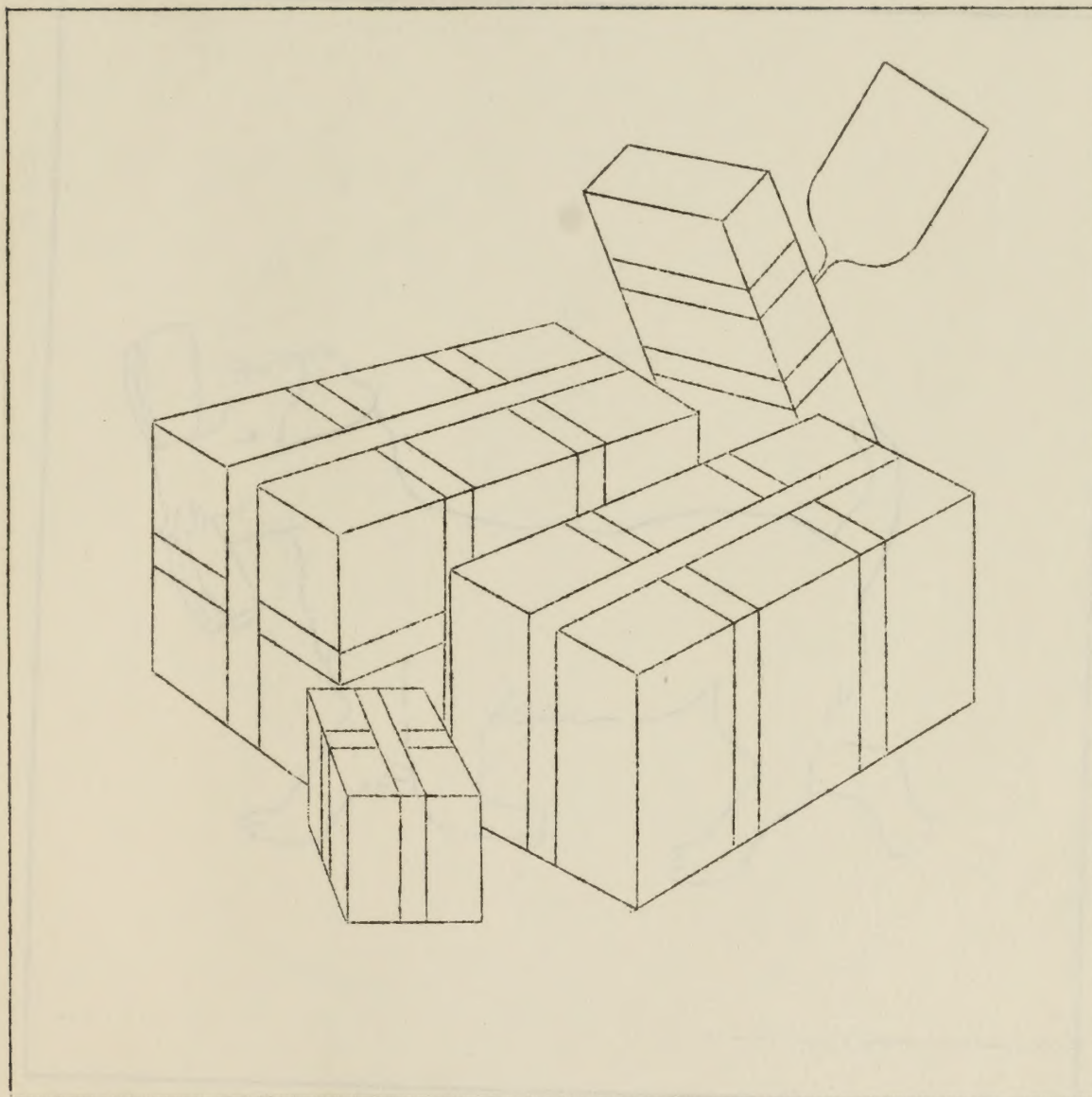
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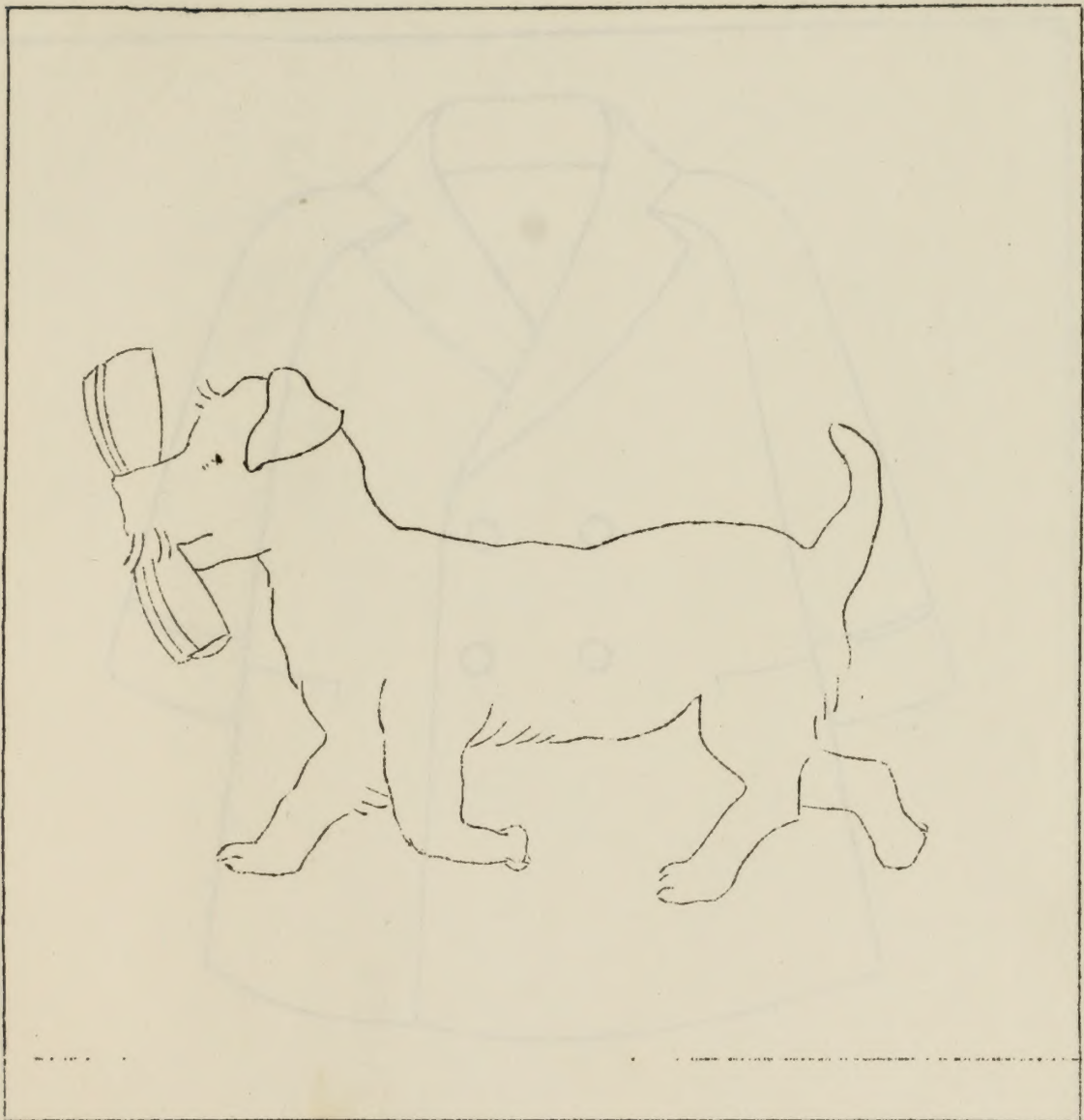
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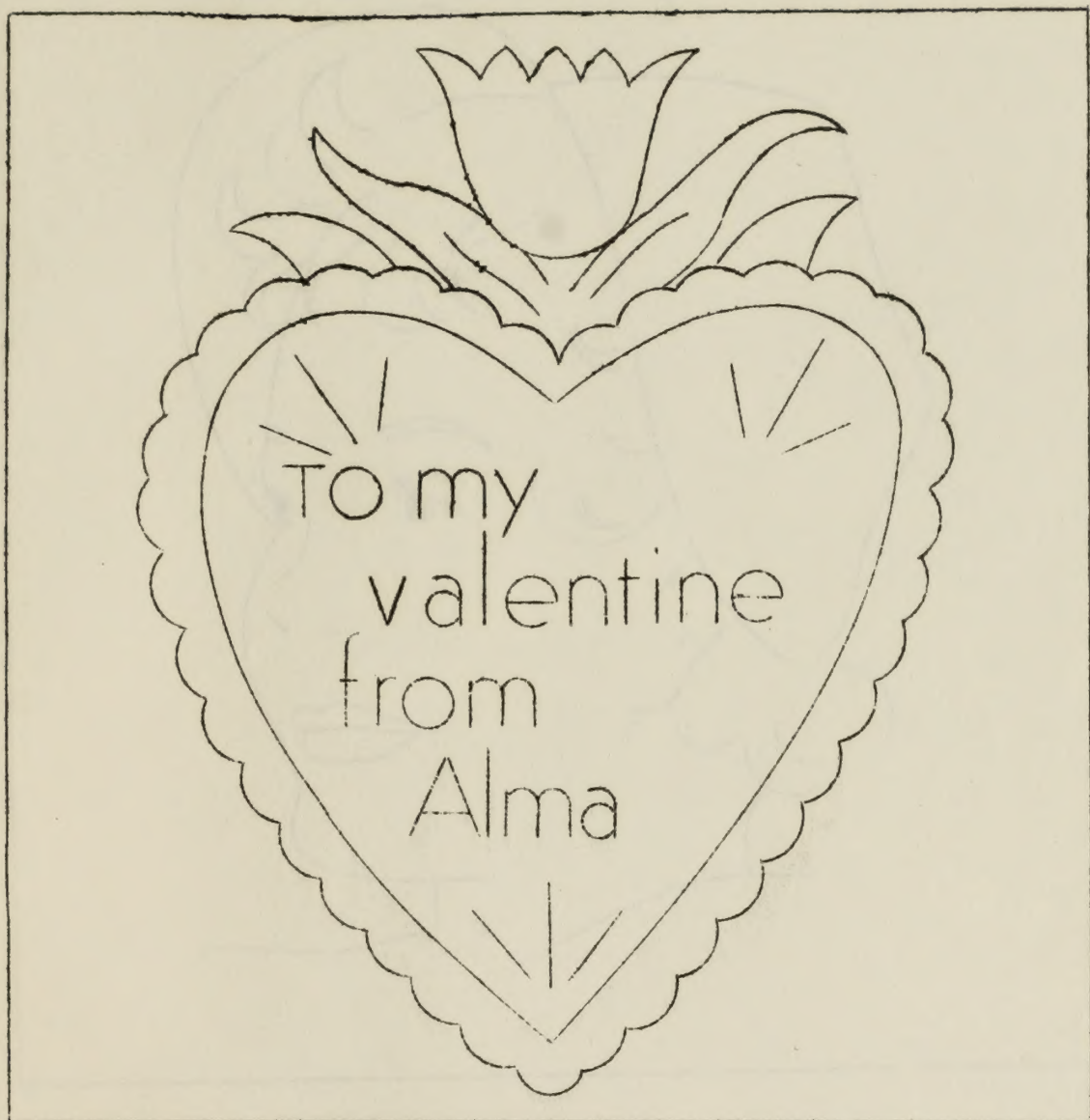


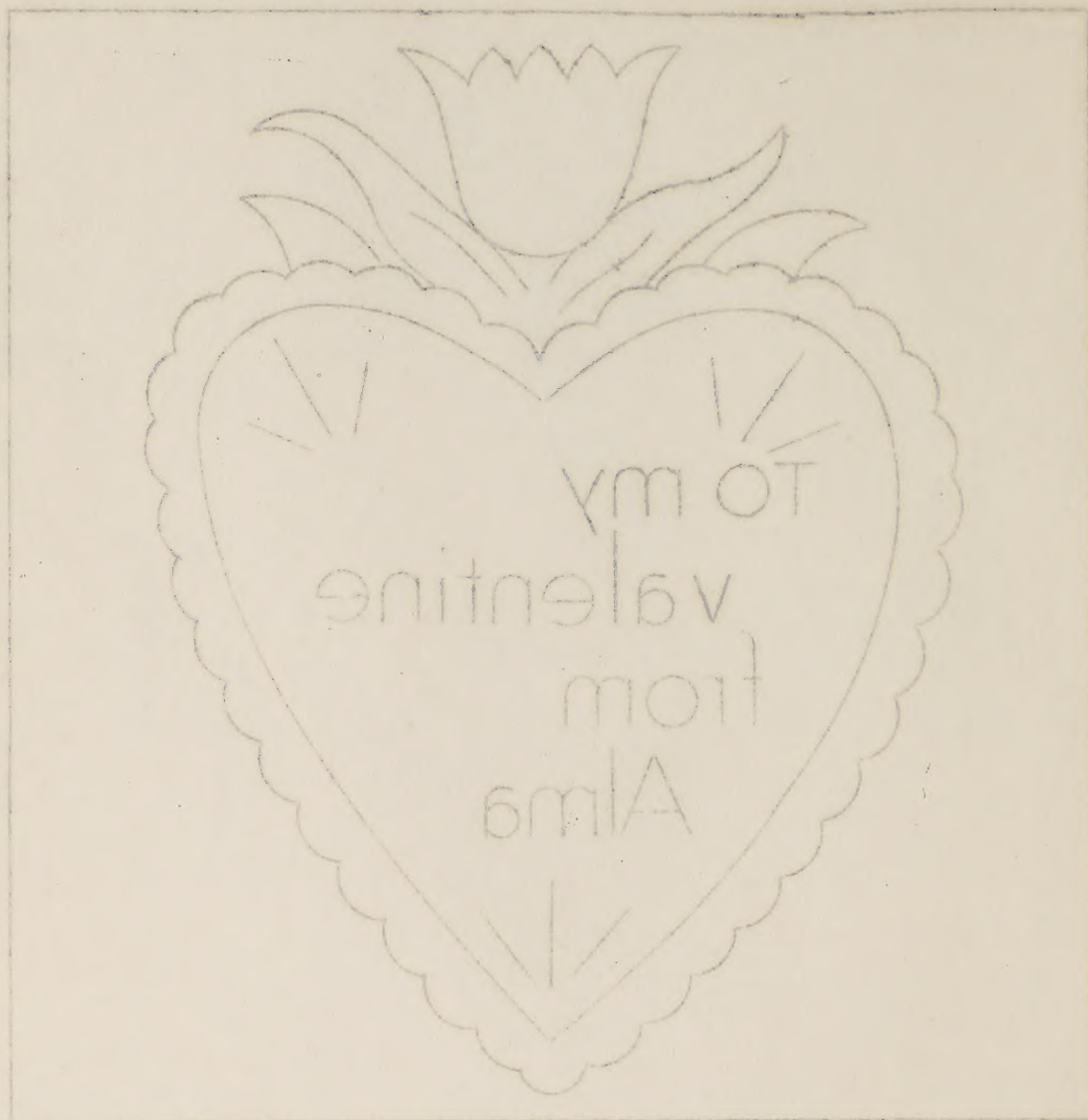


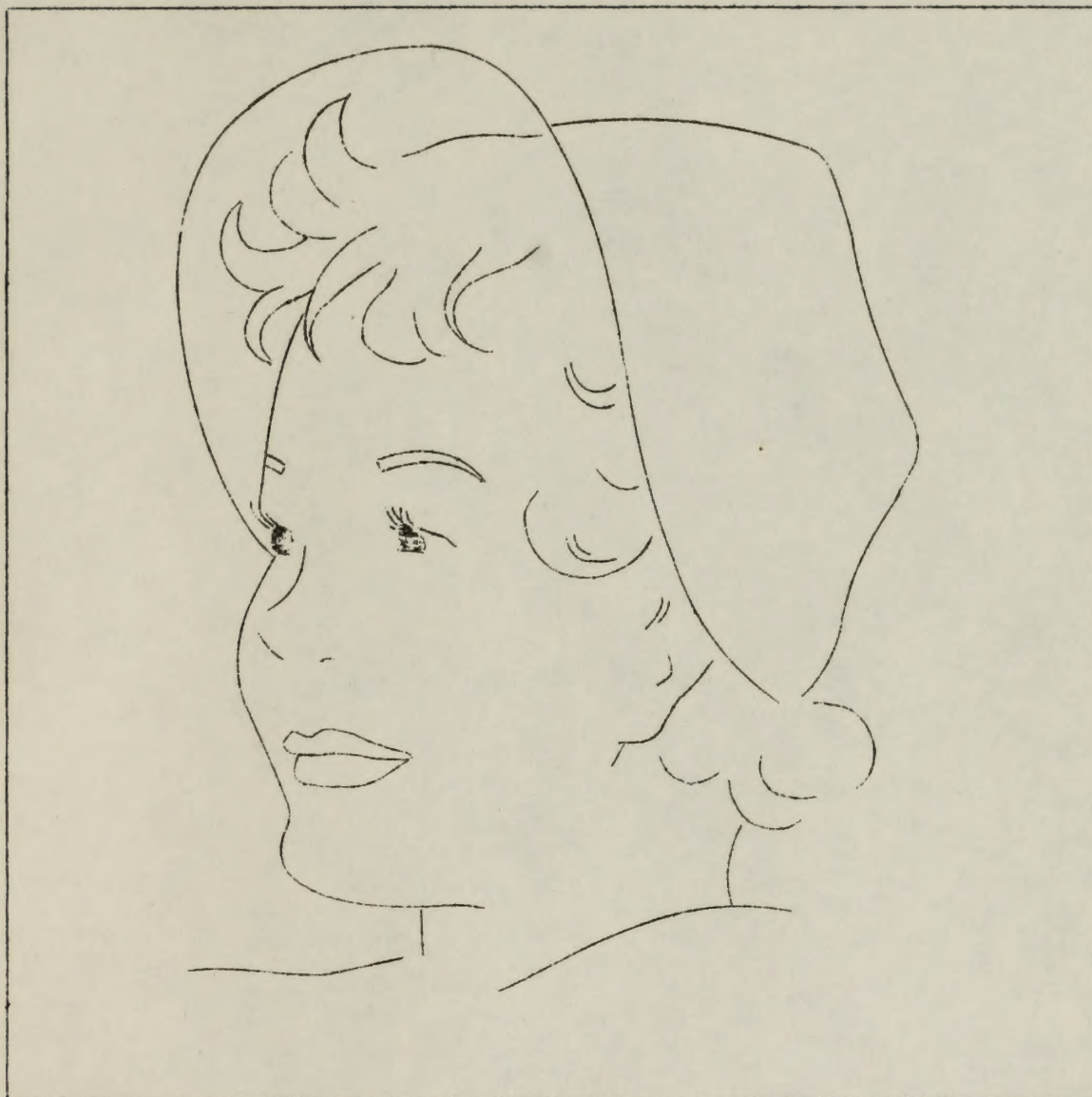








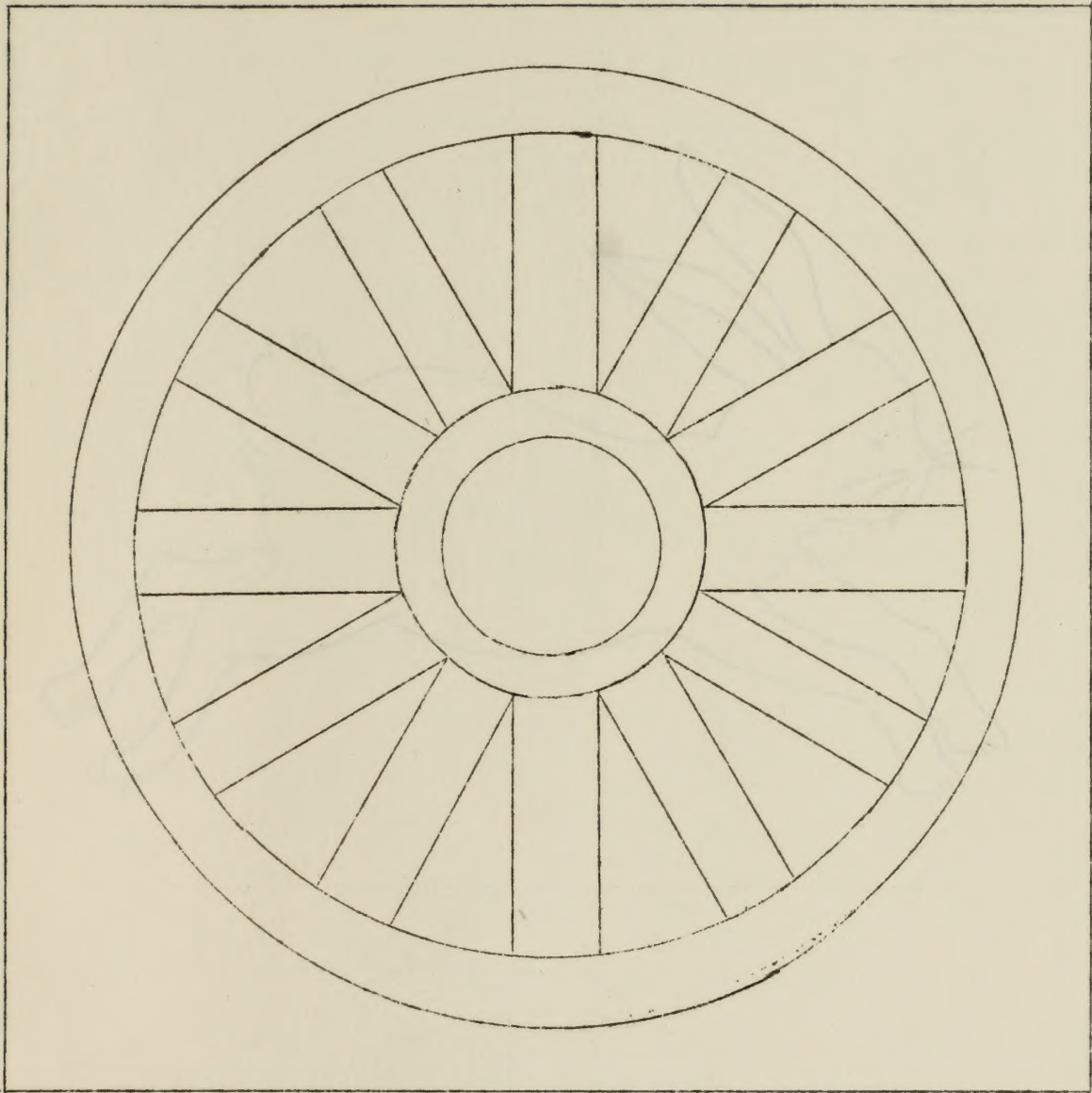


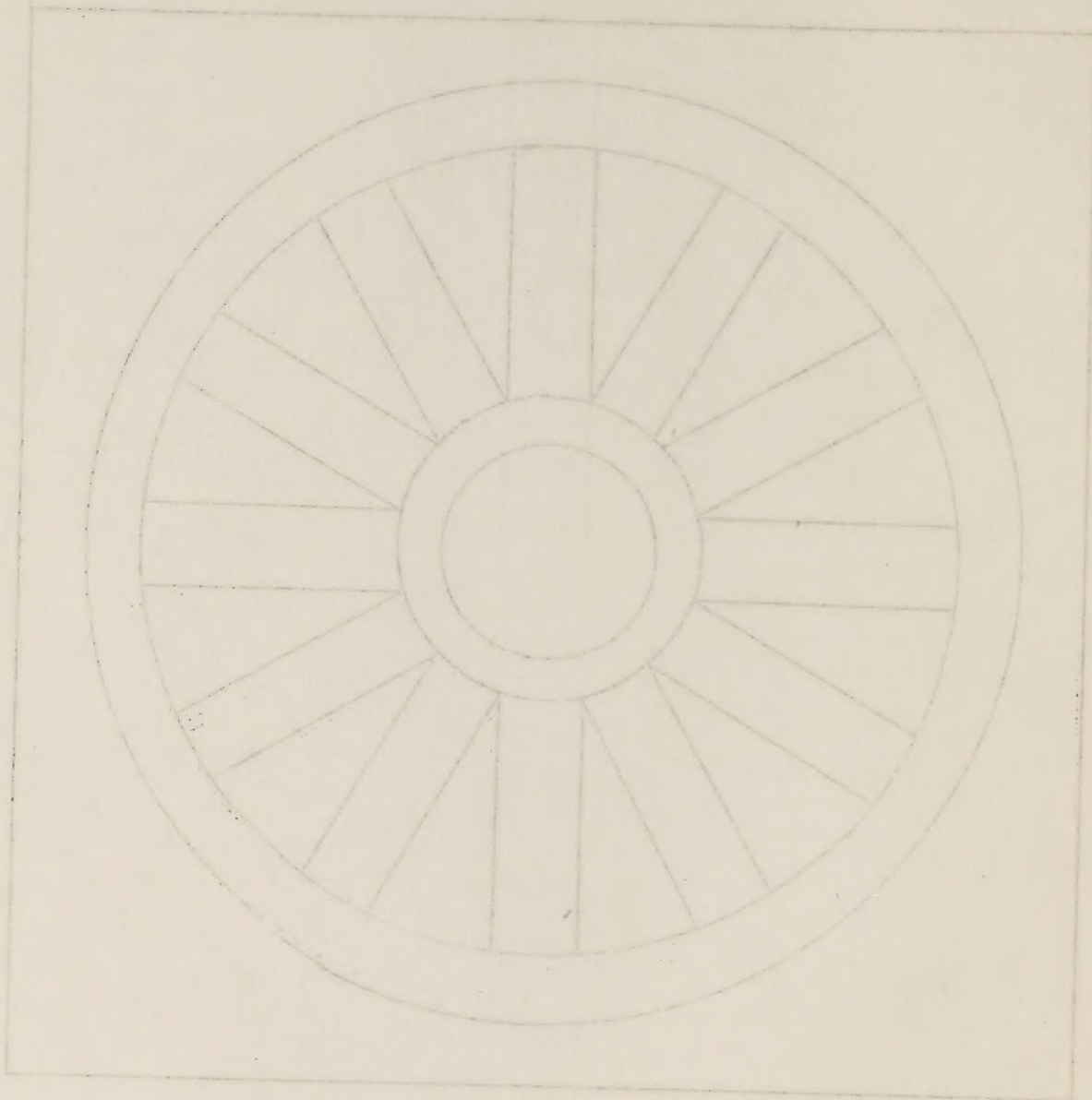


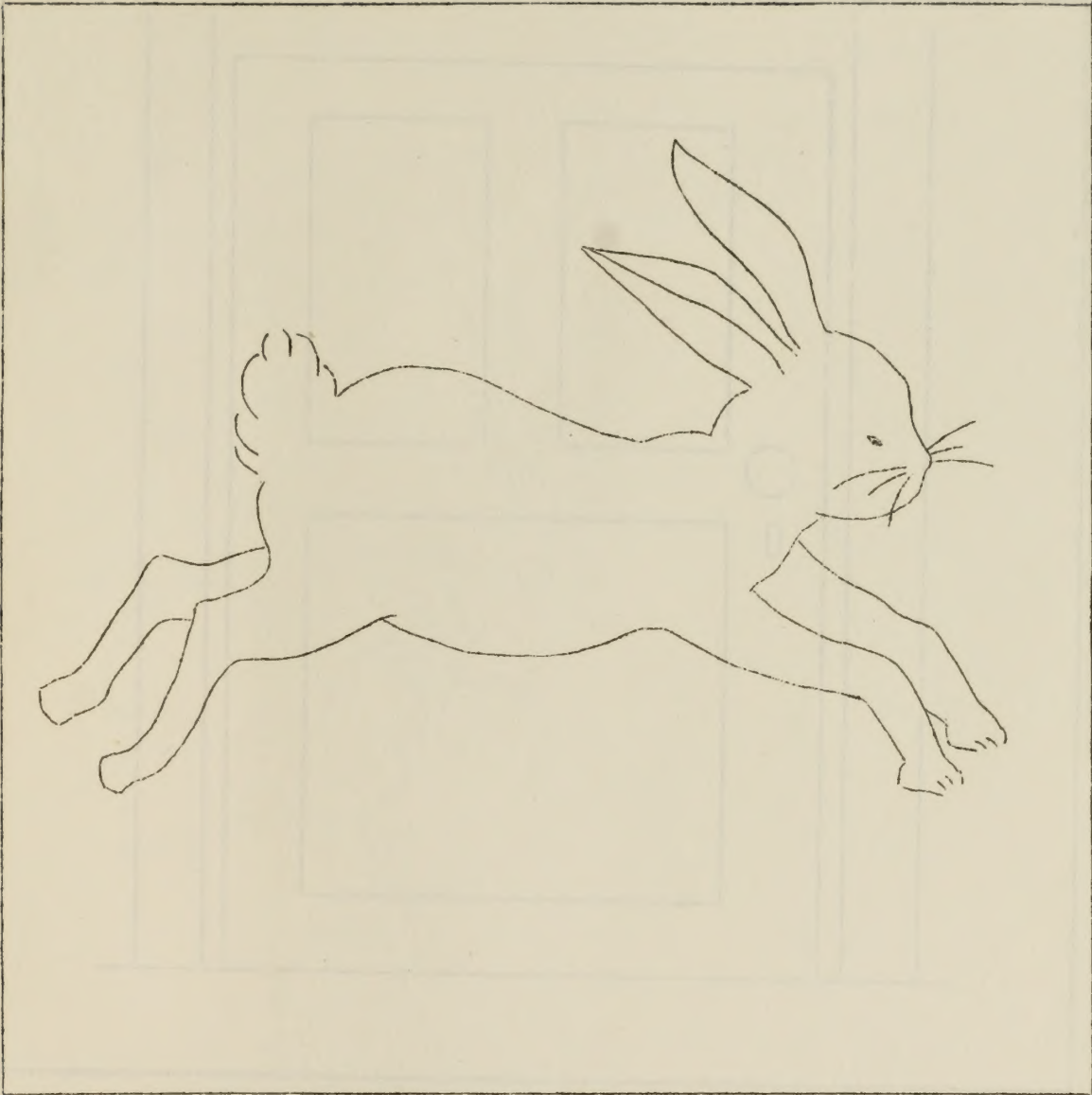
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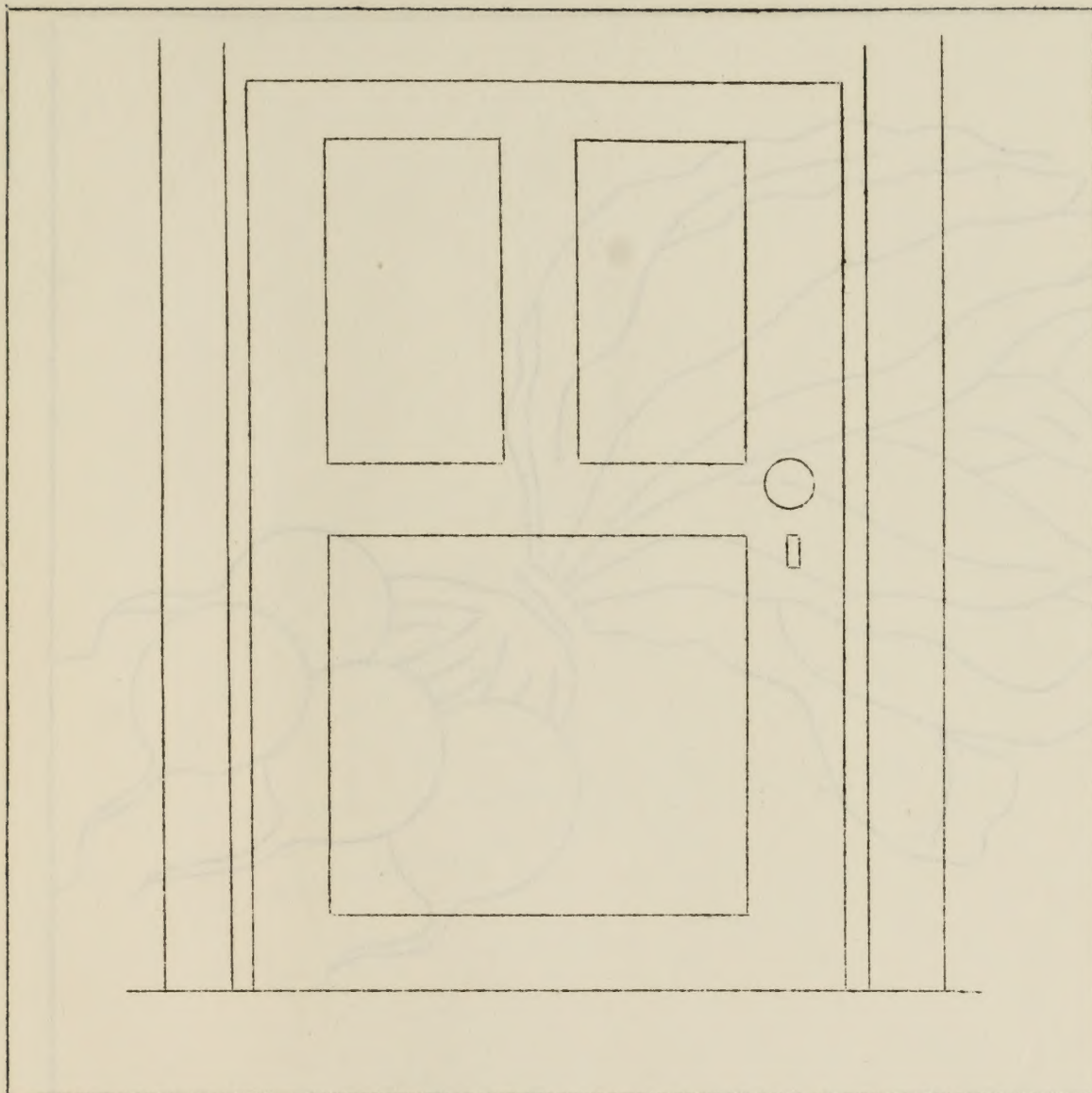
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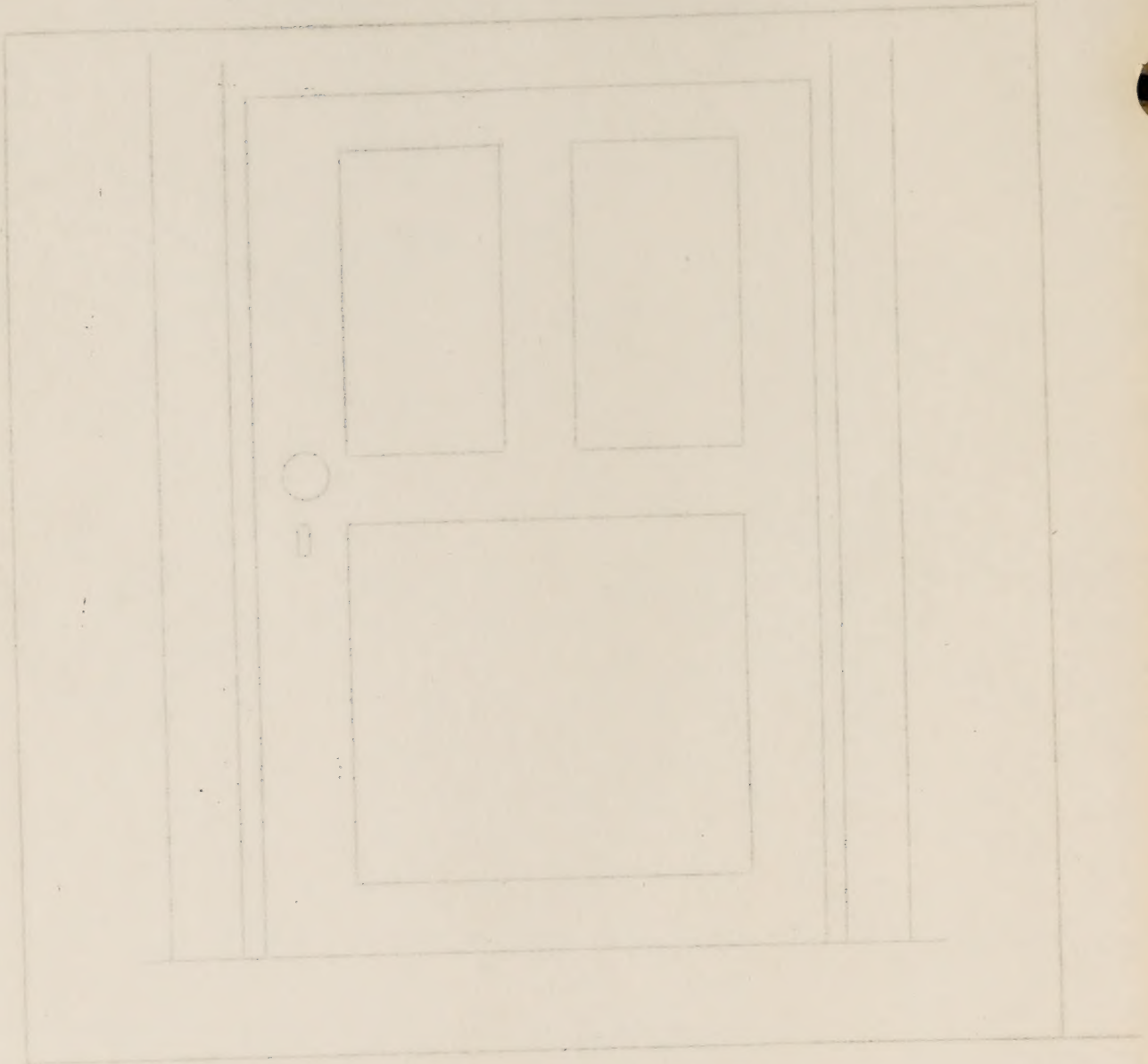




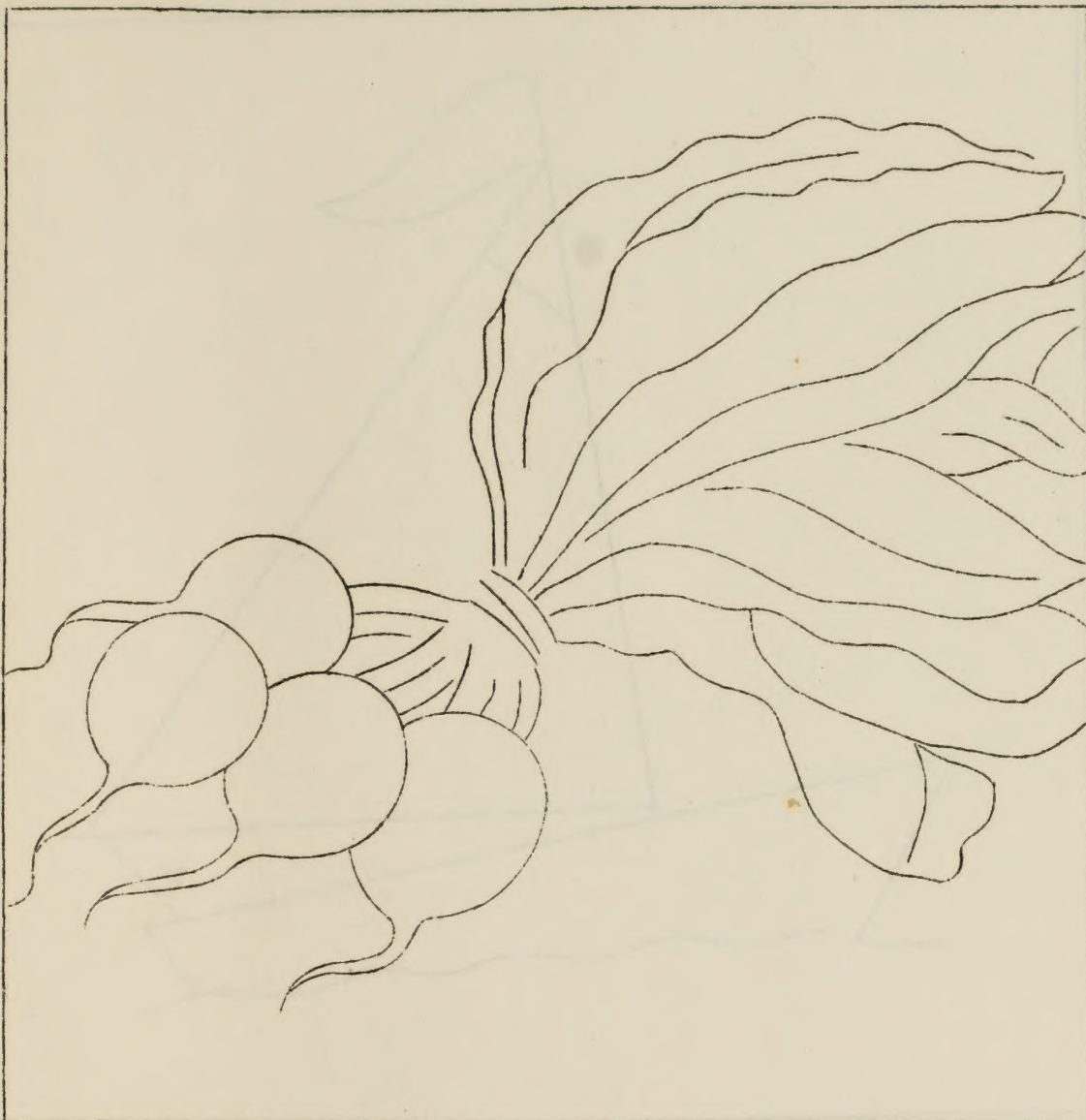
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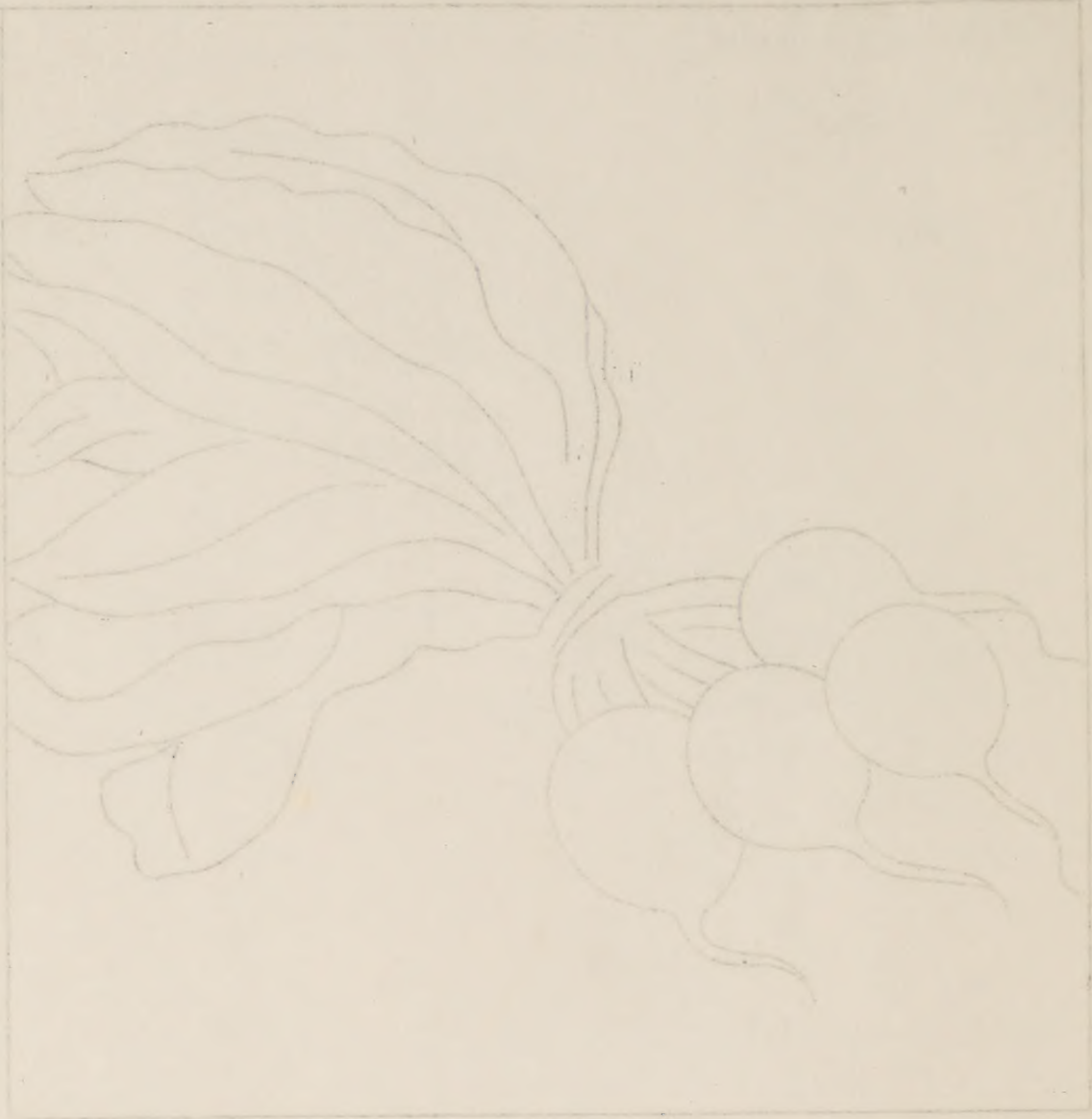
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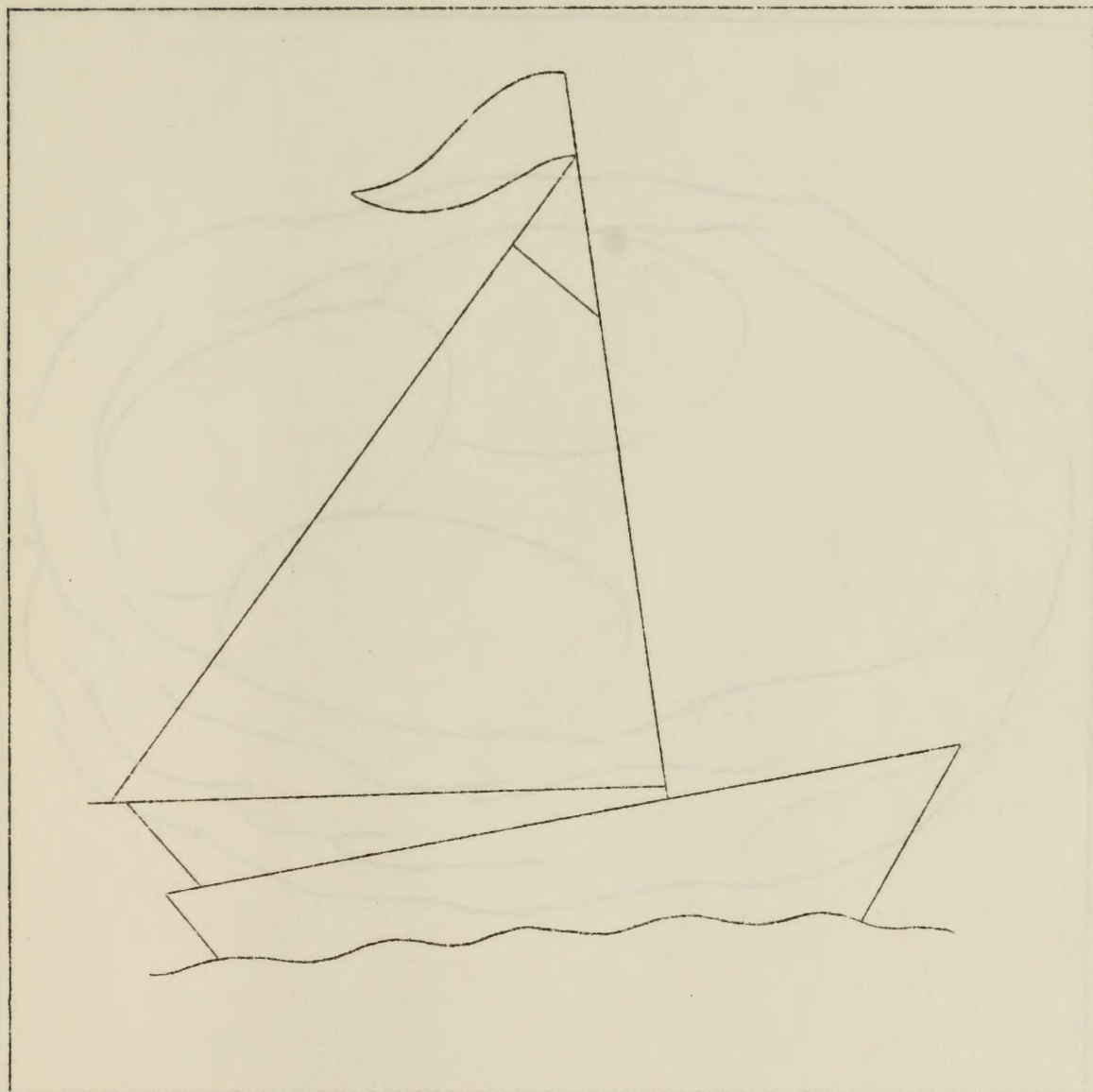
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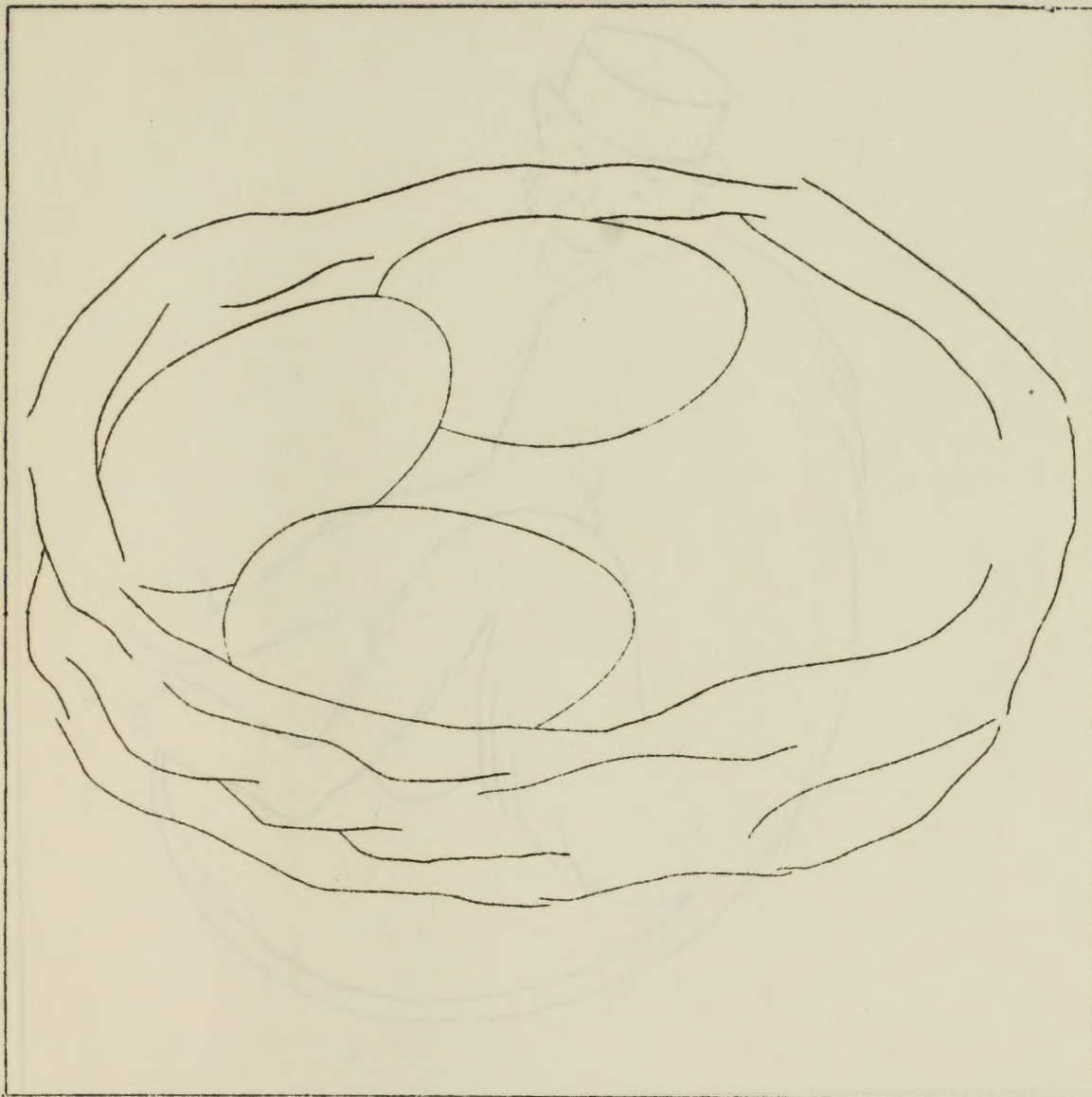


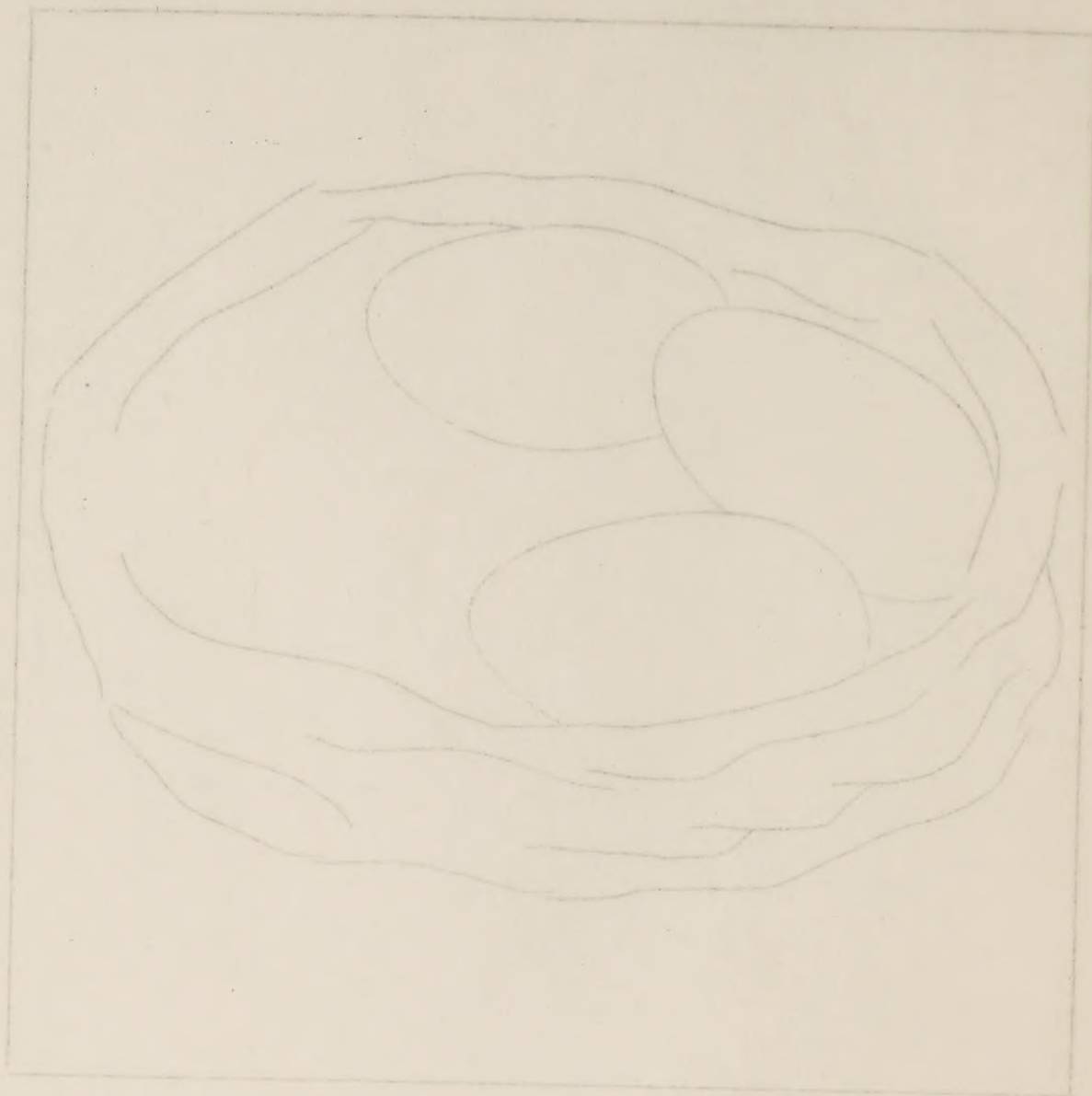
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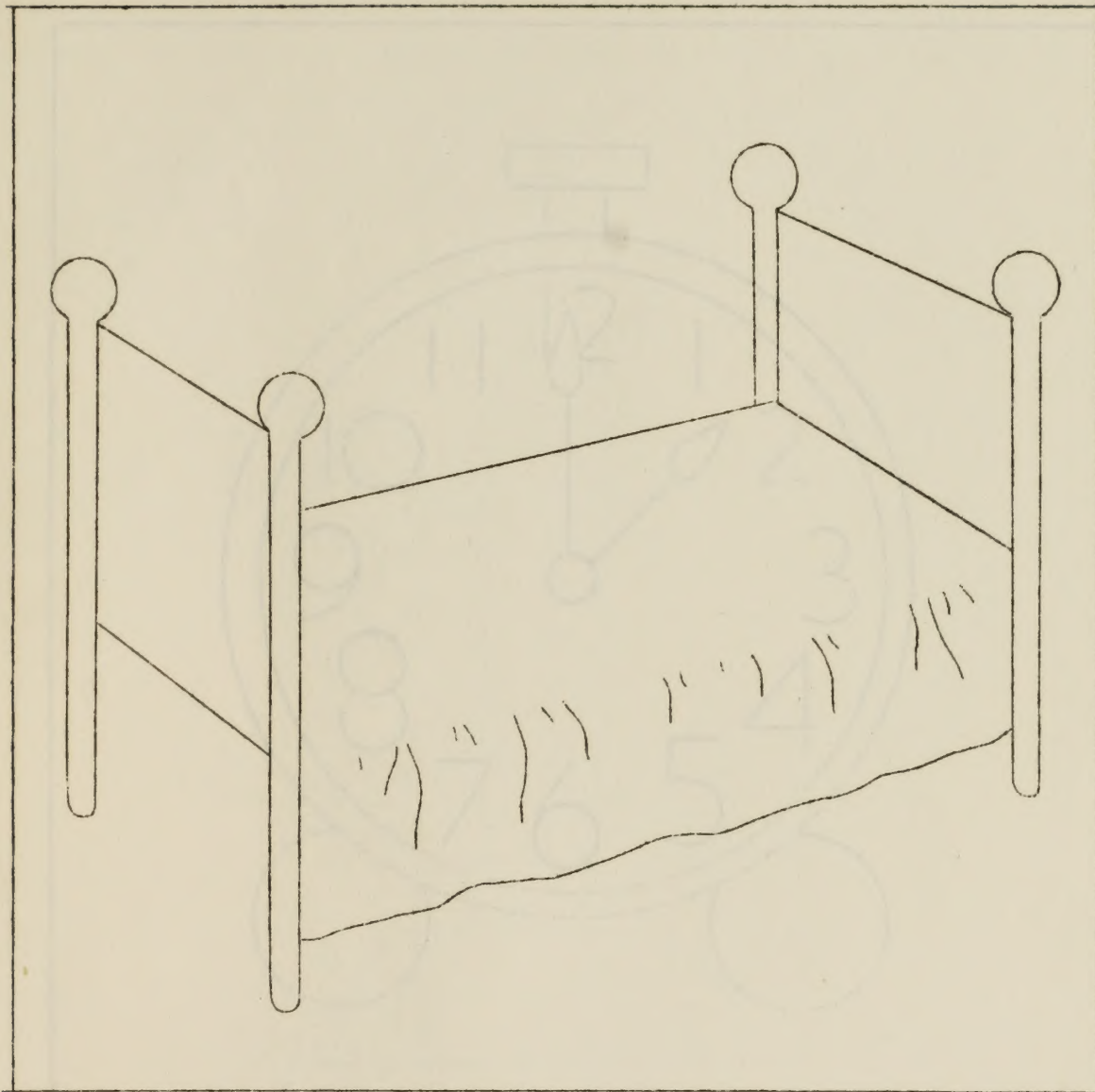
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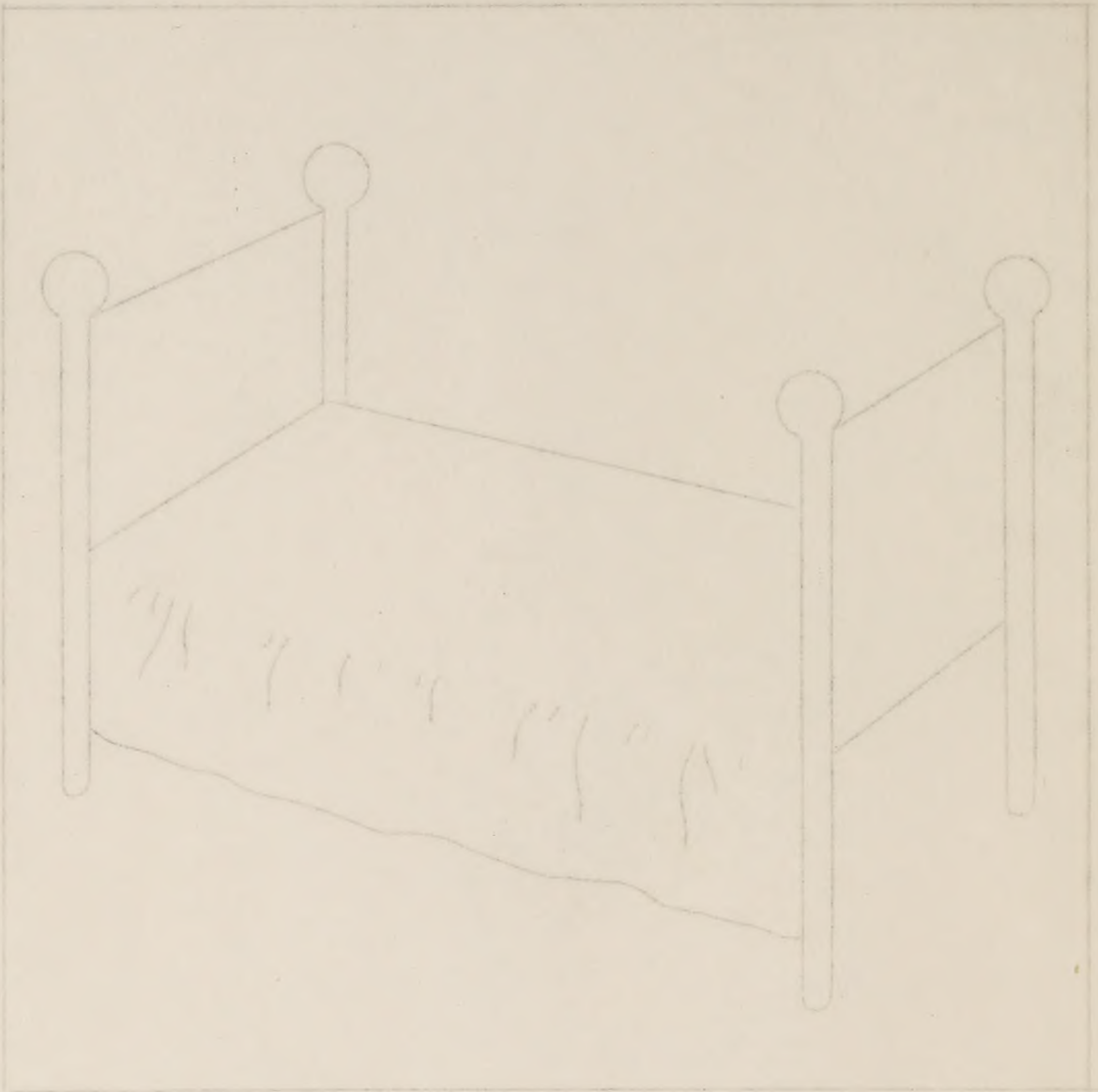


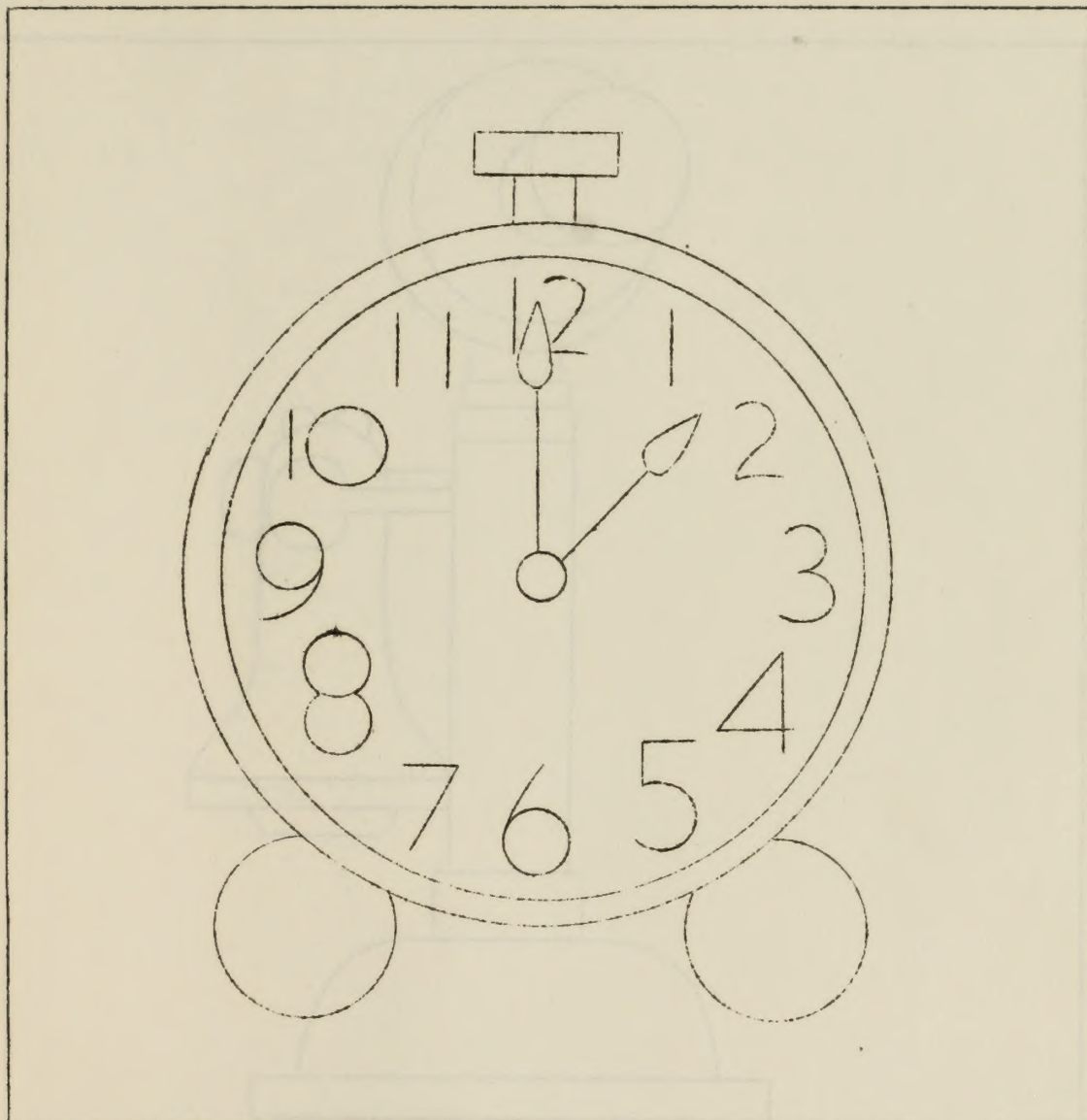






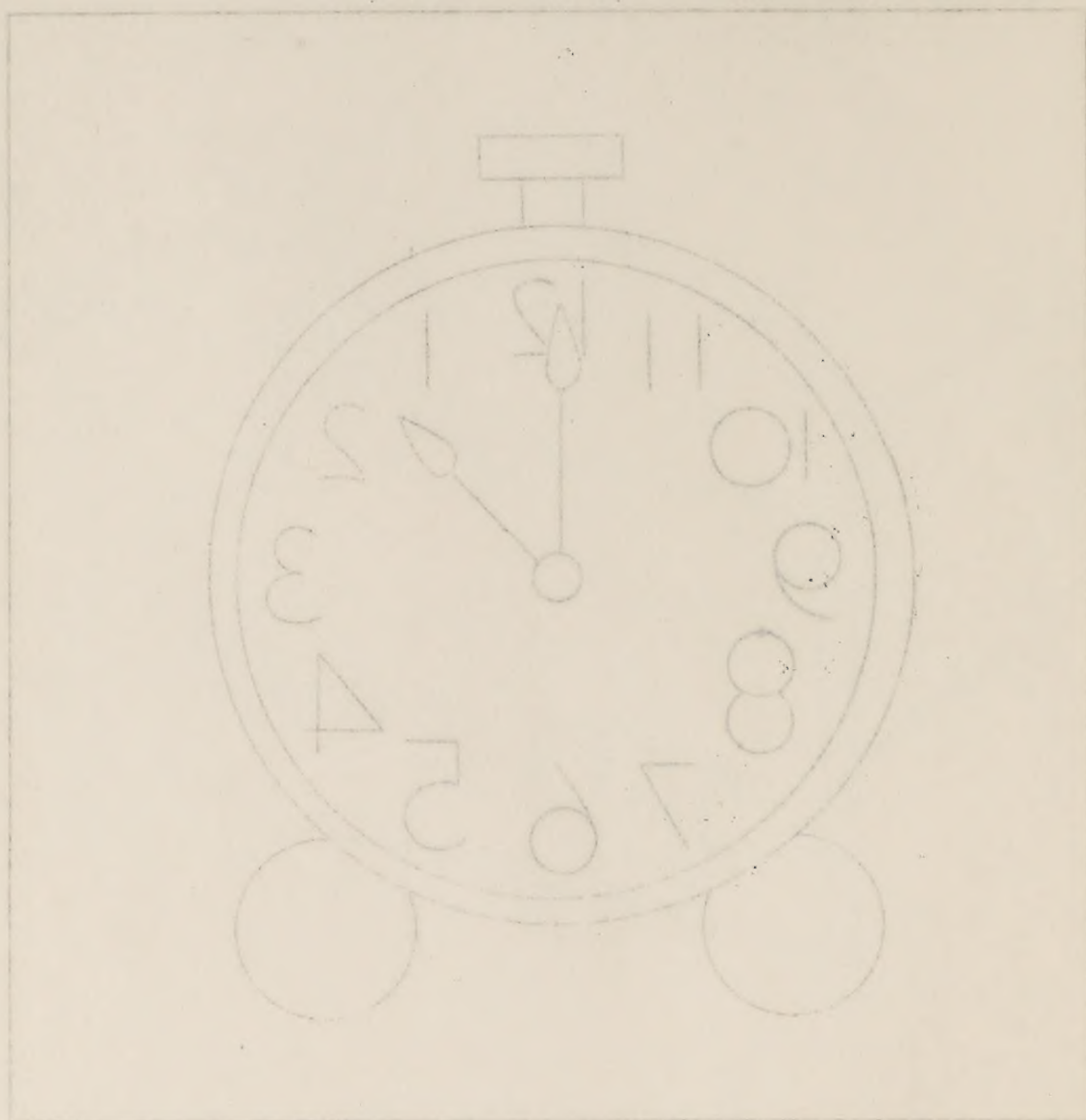


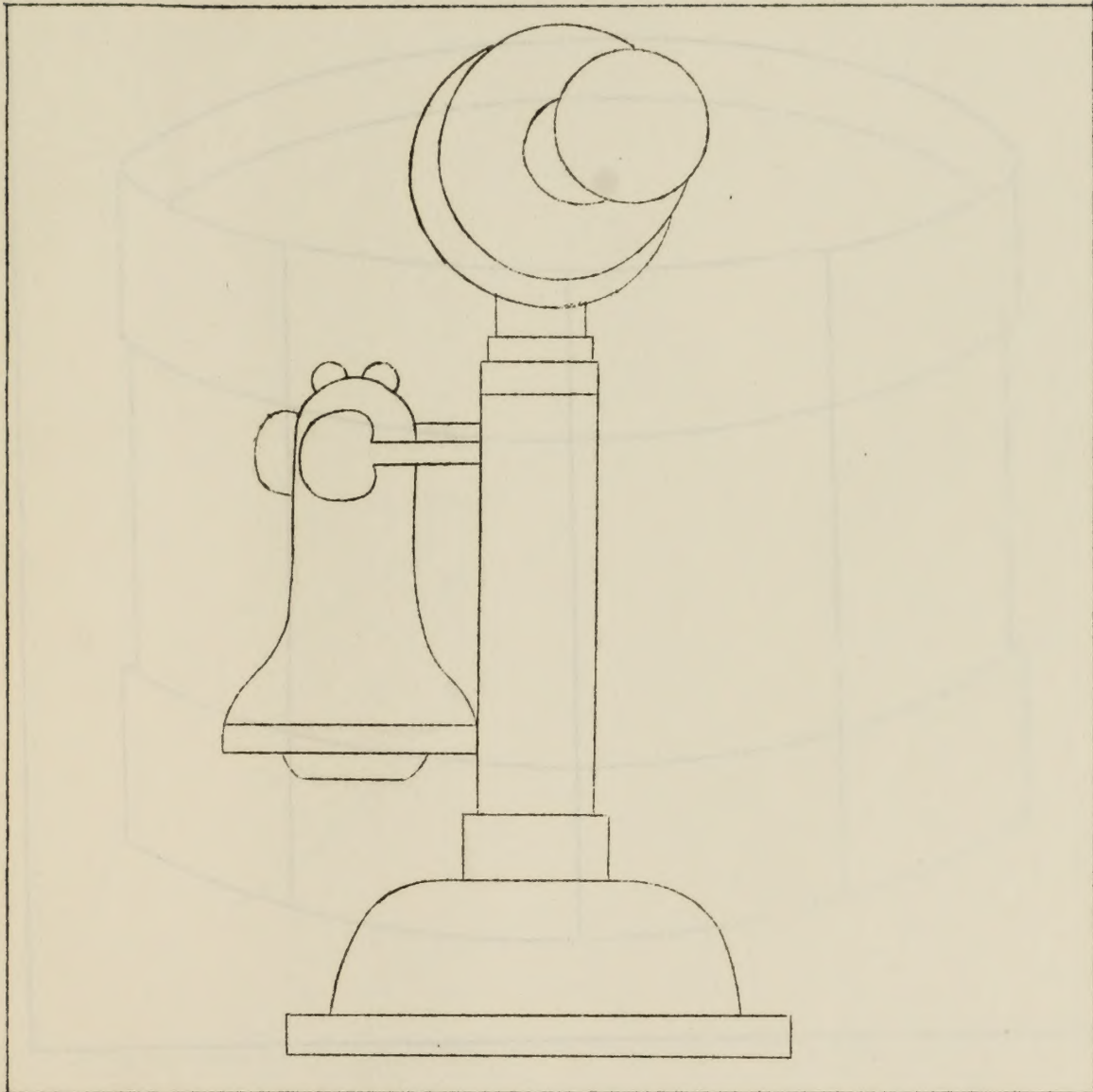




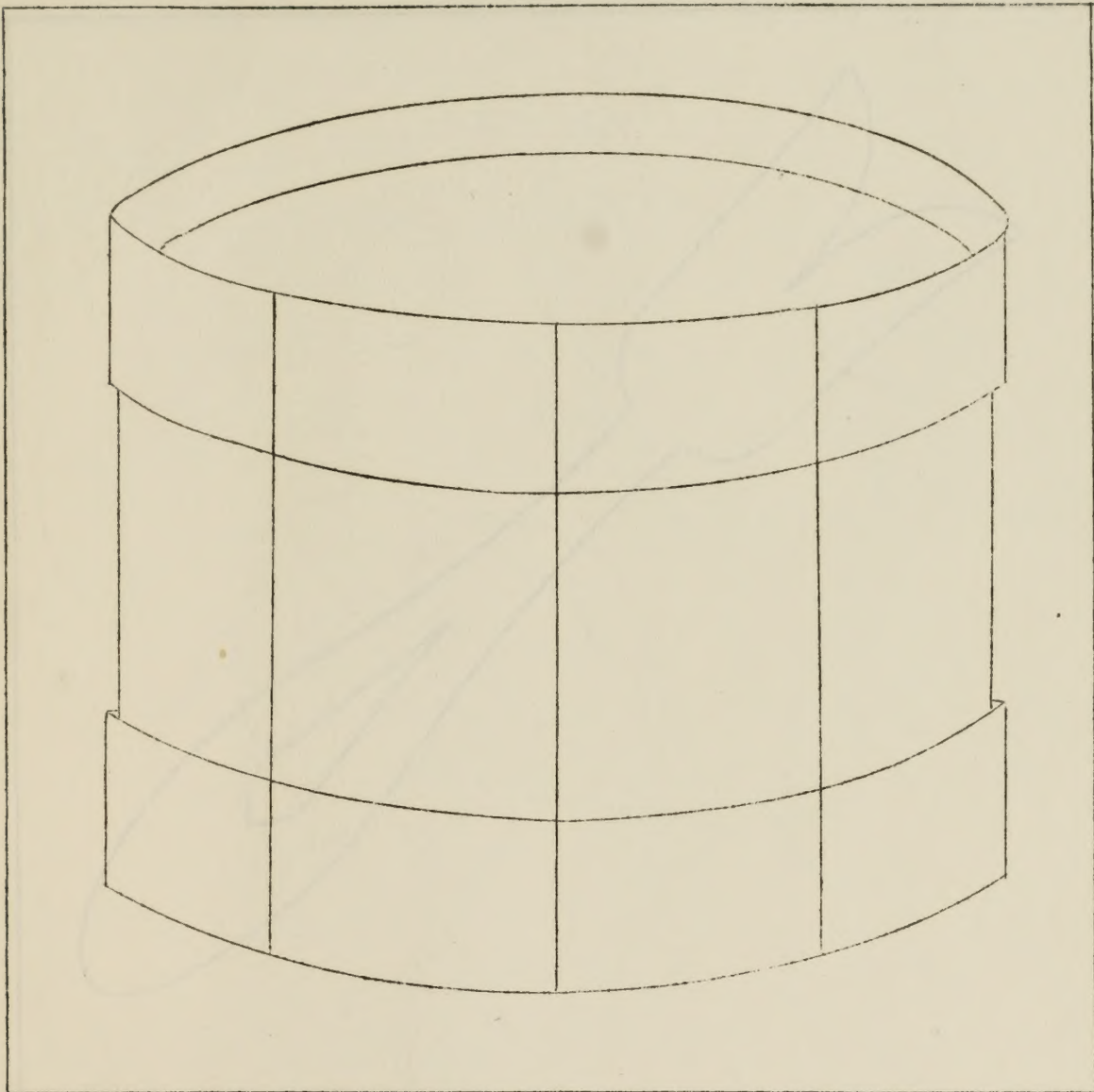
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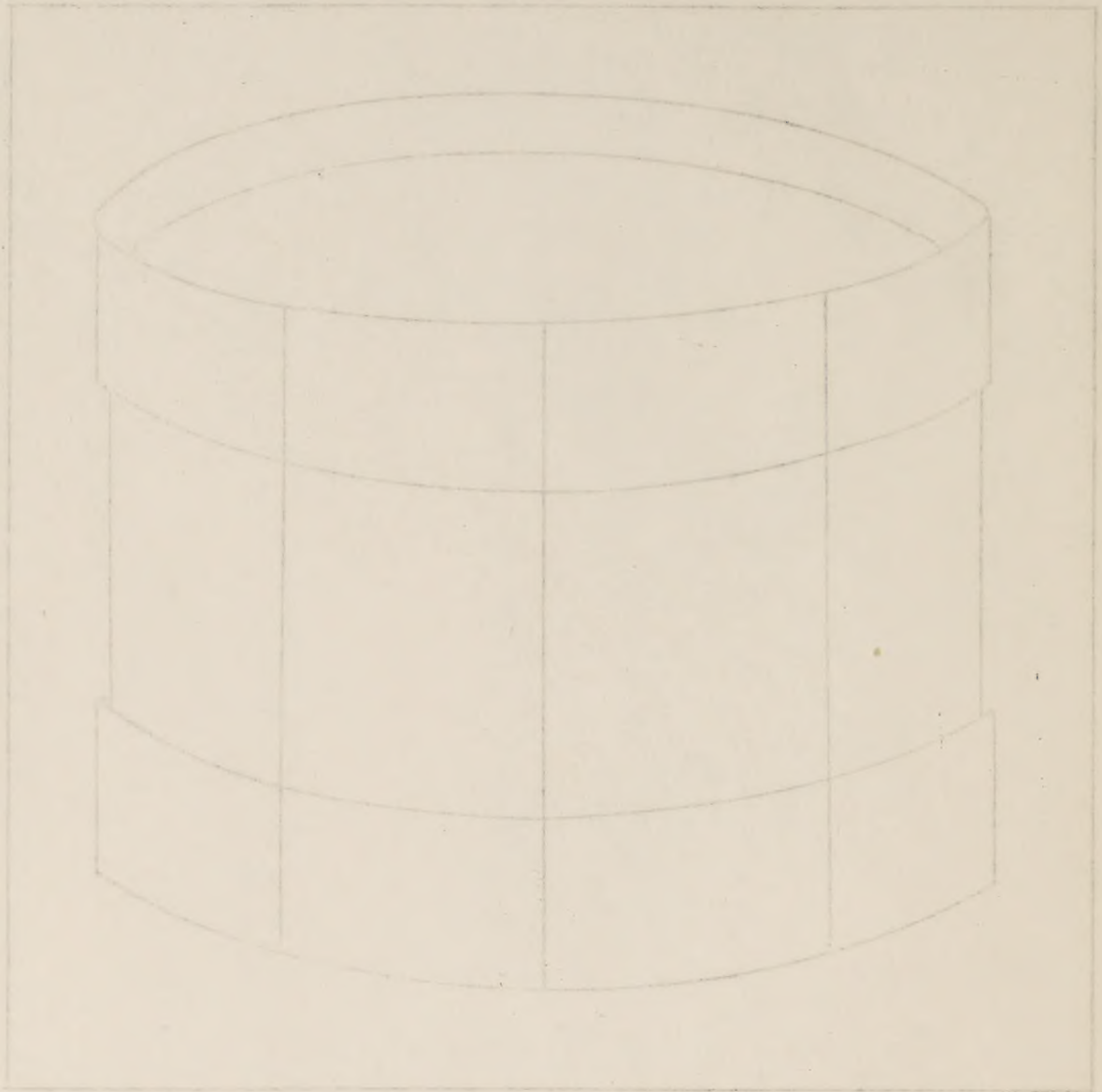


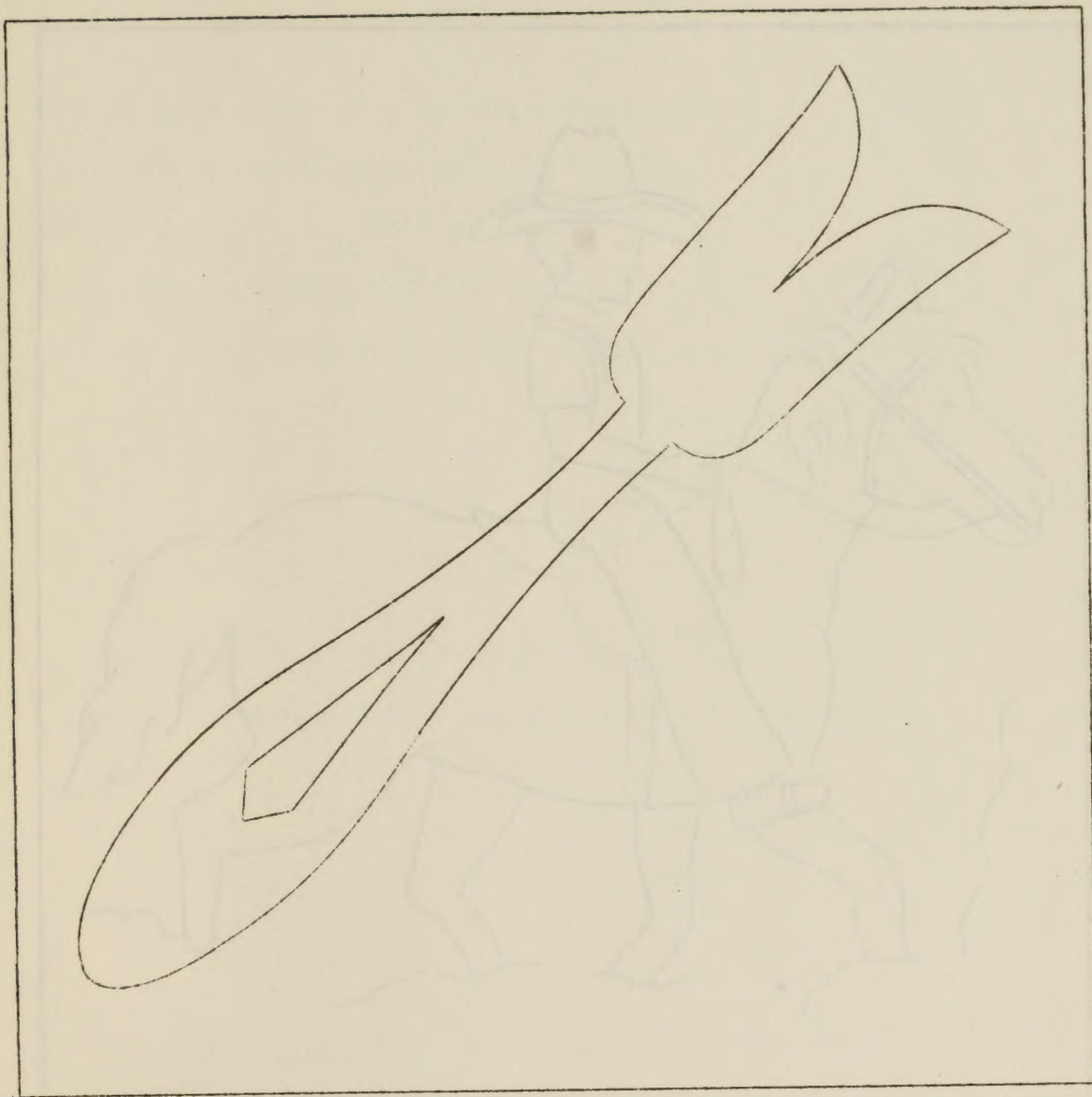




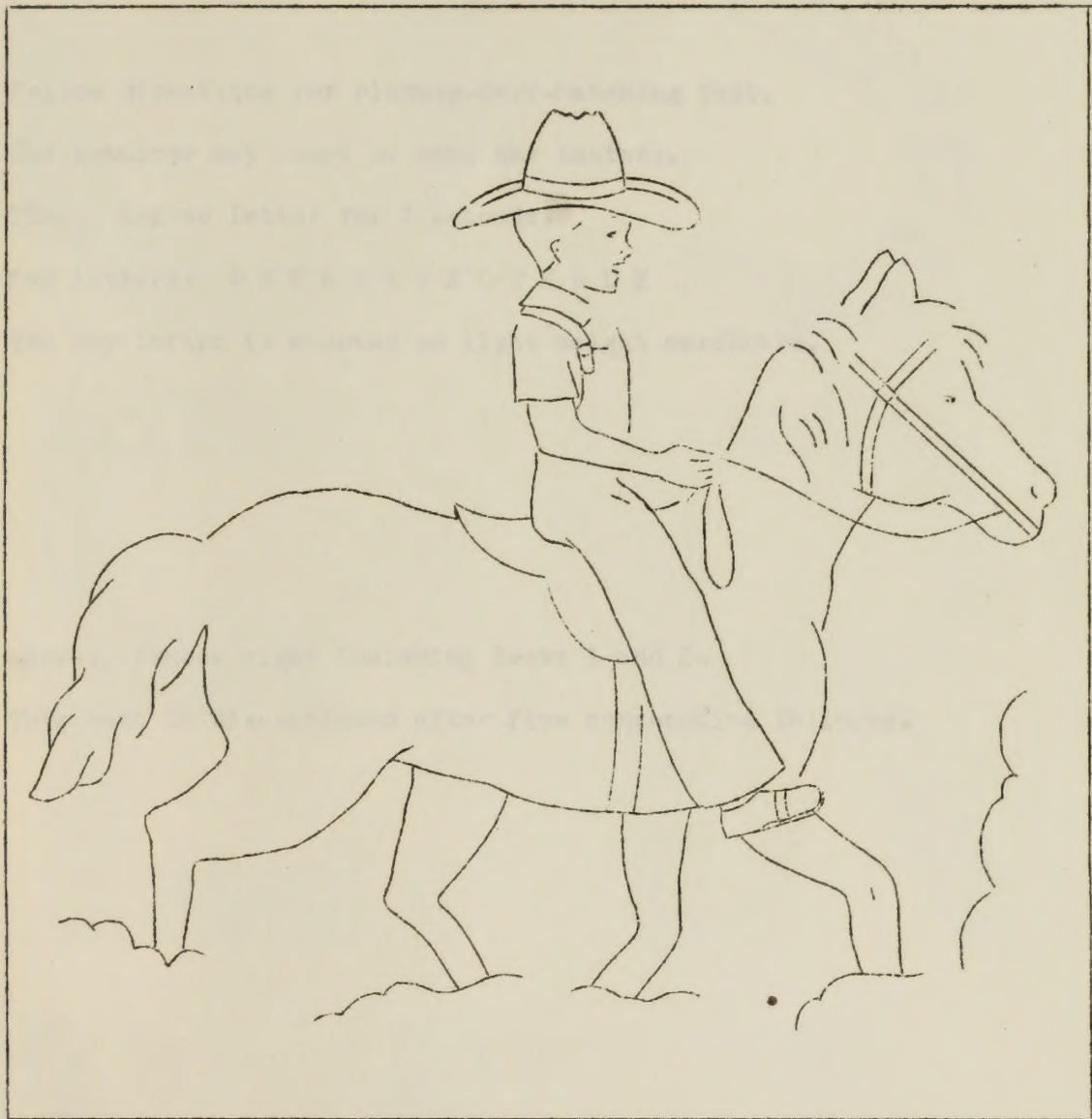
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Test 3

LETTER CARD MATCHING

Capital Letters

Follow directions for Picture-Card-Matching Test.

The Examiner may count or name the letters.

Time: Expose letter for 3 seconds.

Key Letters: O S E R M I N R C T K B D H

The key letter is mounted on light weight cardboard.

Score: Number right including Tests 1 and 2.

This test is discontinued after five consecutive failures.

Test 3

WETTER CARD MATCHING

Capital Letters

Follow directions for Picture-Card-Matching Test.

The Examiner may count or name the letters.

Time: Expose letter for 3 seconds.

Key letters: Q S E K M I N R G T K B D H

The key letter is mounted on light weight cardboard.

Score: Number right including Tests 1 and 2.

This test is discontinued after five consecutive failures.

OS
ER
MI

S

CO

R

E

I

M

N

R

C

T

K

B

IN
C
RT
KB

D

H

HD

Test 3

LETTER CARD MATCHING

Capital and Lower Case Letters

Follow directions for Capital Letters.

The Examiner may count or name the letters.

Time: Expose letter for 3 seconds

Capital Key Letters: O S E R M I N R C T

Lower Case Key Letters: m u e d p b v u g j

The key letter is mounted on light weight cardboard. It is suggested that the Examiner mark the back of the letter (especially the lower case letter) to avoid confusion in flashing it.

Score: Number right including Tests 1 and 2.

This test is discontinued after five consecutive failures.

LETTER CASE MATRICES

Capital and Lower Case Letters

Follow directions for Capital Letters.

The Examiner may count or name the letters.

Time: Expose letter for 5 seconds

Capital Key Letters: O G E H I N S T

Lower Case Key Letters: m n a d p v r e j

The key letter is mounted on light weight cardboard. It is suggested that the Examiner mark the back of the letter (especially the lower case letter) to avoid confusion in flashing it.

Score: Number right including Tests 1 and 2.

This test is discontinued after five consecutive failures.

O

S

E

R

M

I

N

R

C

T

O

S

E

R

M

I

N

R

C

T

m

u

e

d

p

b

v

u

g

j

e

u

m

d

q

b

oo

u

v

j

A	L	O	B
D	S	X	H
E	G	I	F
C	P	R	T
M	J	W	C
I	U	B	T
A	N	B	G

A	L	O	B
D	S	X	H
E	G	I	F
C	P	R	T
M	J	W	C
I	U	B	T
A	N	B	G

R

P

K

U

G

O

C

Q

M

L

T

W

A

O

K

C

F

B

P

H

D

B

C

T

S

H

T

N

U	K	P	R
Q	C	O	G
W	T	L	M
C	K	O	A
H	P	B	F
T	C	B	D
N	T	H	S

A L O B

a t m h

D S X H

u b k n

E G I F

c p e a

C P R T

h i d f

M J W C

p b m s

I U B T

b t d w

A N B G

u v f h

R P K U

n u t v

G O C Q

m g y n

M L T W

s i j n

A L O B s t m n

D S X H u p k n

E C I c b s

C B A T h i q f

M J W F b p m s

I U B T p f q w

A N B C u v f h

R E K U n u f v

G O C G m g y n

M L T W s i j o

Test 4-A

WORD-MATCHING TEST

(7 Sample Tests)

DIRECTIONS

"Put your marker down to find the first row of words. Put your two fingers beside the first word, and count ONE."

Examiner helps each child to frame the word with his two fingers.

"Put your two fingers beside the next word and count TWO. Put your finger beside the next word and count THREE."

"Count the words again!"

ONE TWO THREE

The Examiner watches to see that the child frames the words with his two fingers as he counts.

"Now, put your two fingers beside the first word. Draw a line under the first word. Find another word that looks like it. Draw a line under the word that looks like it. Yes, those two words are alike, - that is why we draw a line under them."

If the child fails, the Examiner explains:

"This word and this word are alike". (The Examiner points to the letter).

Test 4 - "This word is not alike; it has only two letters. This word has one, two, three, four, five, six letters.

three

Test 5 - "This word is not alike; it has ^{three} letters. This word has 7 letters.

Test 6 - "This word is not alike; it has a different letter in the middle. (of the word)

Test 7 - "This word is not alike; it has a different letter at the end. In each explanation the Examiner adds:

"This word and this word are alike, - (pointing to the word); that's why we draw a line under them."

The Sample Tests are not scored.

If the child comprehends the directions, the Examiner begins "Word-Matching Test". (TEST 4-A)

The Examiner follows the directions for the "Sample Tests".

Score: Number right

The Test is discontinued after five consecutive failures.

WORD-RECOGNITION TEST

(V Sample Test)

DIRECTIONS

Read the words below.

The first letter of each word is underlined. For your two fingers, besides the first word, read some more.

Examine each word carefully. The first letter of each word is underlined. For your two fingers, besides the first word, read some more.

"The first letter of each word is underlined. For your two fingers, besides the first word, read some more."

"Count the words again."

ONE TWO THREE

The examiner wishes to see that the child knows the words and the two fingers besides the first word.

"Now, read the words below. The first letter of each word is underlined. For your two fingers, besides the first word, read some more. Draw a line under the first word. Then, draw a line under the first letter of each word. These two words are alike. That is the why to draw a line under them."

It is this test, the examiner explains:

"This word and this word are alike." (The examiner points to the letters.)

"This word is not alike; it has only two letters. This word is not alike; it has only two letters. This word is not alike; it has only two letters."

Test 2 - "This word is not alike; it has only two letters. This word is not alike; it has only two letters. This word is not alike; it has only two letters."

Test 3 - "This word is not alike; it has only two letters. This word is not alike; it has only two letters. This word is not alike; it has only two letters."

Test 4 - "This word is not alike; it has only two letters. This word is not alike; it has only two letters. This word is not alike; it has only two letters."

"The first letter of each word is underlined. For your two fingers, besides the first word, read some more."

The sample test is not repeated. The examiner explains the test to the child and the child reads the words.

The examiner explains the test to the child and the child reads the words.

The examiner explains the test to the child and the child reads the words.

The examiner explains the test to the child and the child reads the words.

The examiner explains the test to the child and the child reads the words.

TEST 4.A.
SAMPLE TEST

HE

HE

BE

SO

NO

SO

AT

AT

AS

TO

LITTLE

TO

RUN

RUN

RUNNING

BIG

BEG

BIG

OF

OR

OF

HE HE BE

SO NO SO

AT AT A2

TO LITTLE TO

RUN RUN RUNNING

BIG BIG BIG

OF OR OF

HE

HO

HE

BE

BE

BEE

NO

NOTHING

NO

CAT

CAT

CATCH

SO

SOME

SO

SAT

HAT

SAT

BALL

BALL

FALL

HE HO HE

BE BE BEE

NO NOTHING NO

CAT CAT CATCH

SO SOME SO

SAT SAT SAT

BALL BALL FALL

SUN

GUN

SUN

PAN

PAN

PEN

TAP

TOP

TAP

THERE

THESE

THERE

BACK

BACK

BARK

NOW

HOW

NOW

SAW

SAW

WAS

SUN GUN SUN

PAN PAN PEN

TAP TOP TAP

THERE THESE THERE

BACK BACK-BARK

NOW HOW NOW

SAW WAS SAW

Test 4-B

WORD-CARD MATCHING TEST

DIRECTIONS

Follow directions for "Picture-Card Matching Test"

The Test is not timed.

The key words are:

Page 1.

Page 2.

Column 1.

Column 2.

Column 1.

Column 2.

Column 3.

HO

hall

wanted

saw

here

baa

gun

out

on

ever

he

till

makes

what

children

nothing

tan

brave

come

horse

bow

clock

eat

little

pretty

ran

black

you

then

when

Score: Number right including Tests 1 and 2.

This test is discontinued after 5 consecutive failures.

WORD-CARD MATCHING TEST

DIRECTIONS

Follow directions for "Picture-Card Matching Test"

The test is not timed.

The key words are:

Page 1.

Page 2.

Column 1.	Column 2.	Column 1.	Column 2.	Column 3.
no	half	wanted	saw	here
has	gun	out	on	ever
he	ill	makes	what	children
nothing	ran	prove	come	home
how	clock	ask	little	pretty
ran	black	you	then	when

Score: Number right including Tests 1 and 2.

This test is discontinued after 5 consecutive failures.

Test 4-B

WORD-CARD MATCHING TEST

Hi	Ho	Ha	He	hall	ball	fall	call
----	----	----	----	------	------	------	------

ball	bag	baa	bun	gun	fun	sun
------	-----	-----	-----	-----	-----	-----

he	her	hen	tell	till	tall	toll
----	-----	-----	------	------	------	------

no	nothing	not	tin	ten	tan	ton
----	---------	-----	-----	-----	-----	-----

how	now	bow	wow	click	clock	cloak
-----	-----	-----	-----	-------	-------	-------

man	fan	pan	ran	back	bark	bank	black
-----	-----	-----	-----	------	------	------	-------

11 10 9 8 7 6 5 4 3 2 1	11 10 9 8 7 6 5 4 3 2 1
---	---

11 10 9 8 7 6 5 4 3 2 1	11 10 9 8 7 6 5 4 3 2 1
---	---

11 10 9 8 7 6 5 4 3 2 1	11 10 9 8 7 6 5 4 3 2 1
---	---

11 10 9 8 7 6 5 4 3 2 1	11 10 9 8 7 6 5 4 3 2 1
---	---

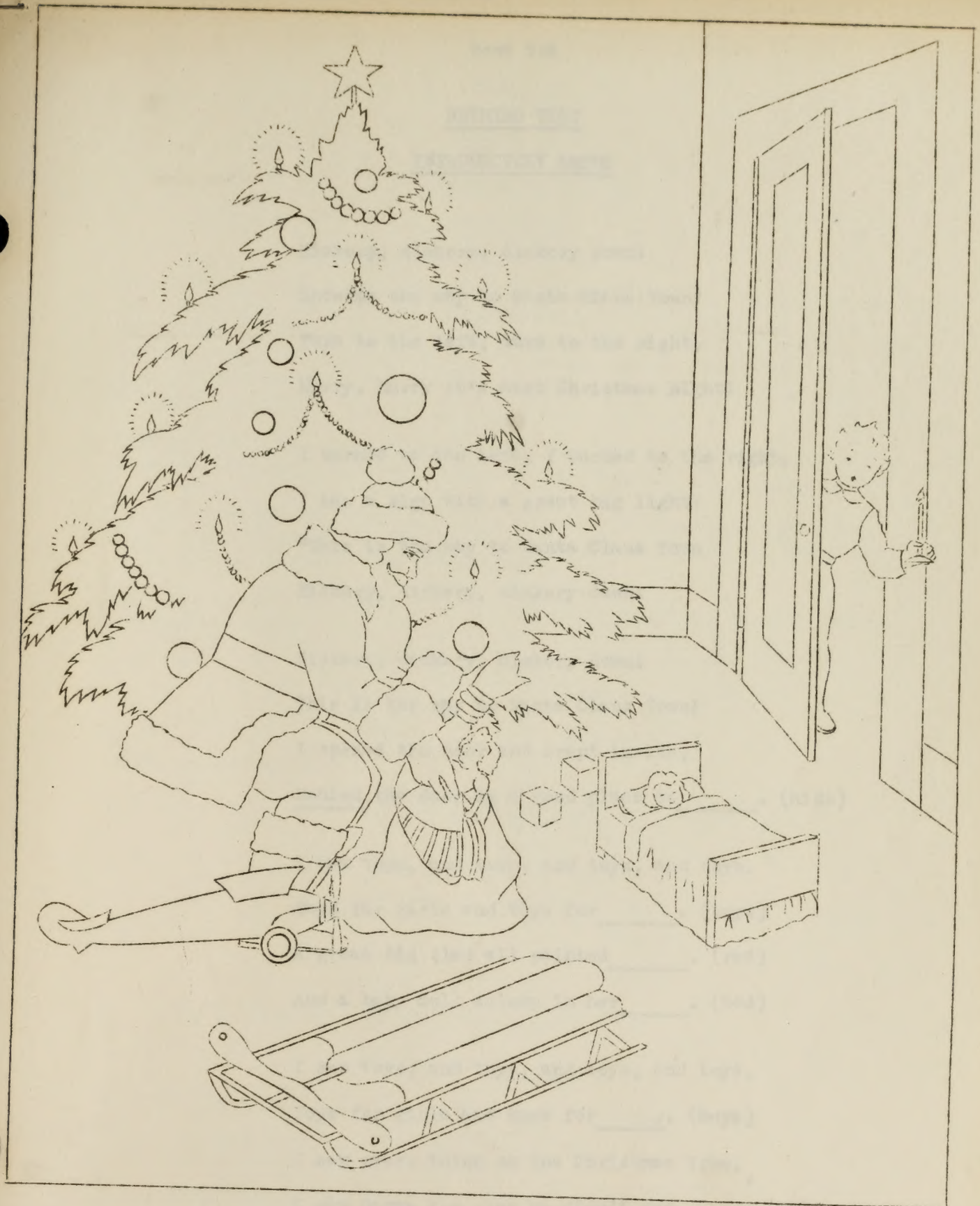
11 10 9 8 7 6 5 4 3 2 1	11 10 9 8 7 6 5 4 3 2 1
---	---

11 10 9 8 7 6 5 4 3 2 1	11 10 9 8 7 6 5 4 3 2 1
---	---

want wanted	saw was	he here
our out	no on	ever even
makes make	what that	chicken children
brave bravely	came come	house horse
ate eat	kitten little	pretty party
you your	then them	when then

1817	1818	1819
1820	1821	1822
1823	1824	1825
1826	1827	1828
1829	1830	1831
1832	1833	1834
1835	1836	1837
1838	1839	1840
1841	1842	1843
1844	1845	1846
1847	1848	1849
1850	1851	1852
1853	1854	1855
1856	1857	1858
1859	1860	1861
1862	1863	1864
1865	1866	1867
1868	1869	1870
1871	1872	1873
1874	1875	1876
1877	1878	1879
1880	1881	1882
1883	1884	1885
1886	1887	1888
1889	1890	1891
1892	1893	1894
1895	1896	1897
1898	1899	1900

JOHN-CLARK-ROBERTS-1817-4-9-1818-1819





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RHYMING TEST

INTRODUCTORY RHYME

Hickery, dickory, dickory down!

Show me the way to Santa Claus Town?

Turn to the left, turn to the right,

Hurry, hurry it's most Christmas Night!

I turned to the left, I turned to the right,

I saw a sign with a great big light;

"This is the way to Santa Claus Town

Hickery, dickory, dickory down!

Hickery, dickory, dickory down!

This is the way to Santa Claus Town!

I opened the door and crept inside;

Behind the door is a good place to _____. (hide)

I saw toys, and toys, and toys, and toys,

Toys for girls and toys for _____. (boys)

A great big sled all painted _____. (red)

And a baby doll asleep in her _____. (bed)

I saw toys, and toys, and toys, and toys,

Toys for girls and toys for _____. (boys)

I saw every thing on the Christmas Tree,

I saw Santa too, but he didn't see _____. (me)

REVIEW TEST

INTRODUCTORY PHASE

Hickory, dickory, dickory down!

Show me the way to Santa Claus Town!

Turn to the left, turn to the right,

Hurry, hurry it's most Christmas night!

I turned to the left, I turned to the right,

I saw a sign with a great big light:

"This is the way to Santa Claus Town

Hickory, dickory, dickory down!

Hickory, dickory, dickory down!

This is the way to Santa Claus Town!

I opened the door and crept inside;

Behind the door is a good place to _____ (hide)

I saw toys, and toys, and toys, and toys,

Toys for girls and toys for _____ (boys)

A great big list all painted _____ (red)

And a baby doll asleep in her _____ (bed)

I saw toys, and toys, and toys, and toys,

Toys for girls and toys for _____ (boys)

I saw every thing on the Christmas Tree,

I saw Santa too, but he didn't see _____ (me)

RHYMING TESTINTRODUCTORY RHYMEDIRECTIONS

Examiner says the "Santa Claus" rhyme, emphasizing the rhyming words. She encourages the children to join with her; and pauses for them to supply the rhyming words. (If the child does not readily respond, the Examiner says the rhyming word). In verses three, four, and five the Examiner pauses for a longer time, and the child unconsciously supplies the rhyming words.

Examiner shows the picture and repeats the rhyme. The child repeats with her the lines which he remembers and supplies the rhyming words.

Examiner returns to this test later in the day. Examiner says the rhyme with the picture. The child joins with her; says the lines he remembers and supplies the rhyming words.

Examiner repeats the rhyme. As the child supplies the rhyming words, the Examiner says:

Yes _____ rhymes with _____
 " " _____ etc.

Examiner continues:

"I'm thinking of RED. Can you find a picture that rhymes with RED?

"	"	"	BOYS	"	"	"	"	"	"	"	"	BOYS
"	"	"	<u>INSIDE</u>	"	"	"	"	"	"	"	"	<u>INSIDE</u>
"	"	"	ME	"	"	"	"	"	"	"	"	ME

As the child responds, the Examiner repeats:

_____ rhymes with _____

If the child comprehends the questions, the Examiner begins

Rhyming Test

(Two Rhyming Pictures)

Test 5-C

RHYMING TEST

(Two Rhyming Pictures)

DIRECTIONS

"Here is a row of pictures. Put your marker down to find the first row of pictures. I will say the pictures. Put your finger under the picture while I say the name". The Examiner says:

SLED BED TREE DOLL

The Examiner watches each child to see that he puts his finger under the Picture as she names it. "Now you say the pictures with me". Examiner and child name the pictures:

SLED RED TREE DOLL

Find SLED. Draw a line under SLED. Find the picture that rhymes with SLED. Draw a line under the picture that rhymes with SLED.

If the child fails, the Examiner explains:

Do SLED and BED rhyme? Yes, SLED and BED rhyme. (or, if the response is wrong, the Examiner says SLED and BED rhyme). Does TREE rhyme with SLED - BED? No, TREE doesn't rhyme with SLED, BED. Does DOLL rhyme with SLED-BED? No, DOLL doesn't rhyme with SLED-BED. SLED rhymes with BED; that is why we draw a line under SLED and BED.

The child receives help in Test 2 according to the above directions.

From this point the examiner works down the page. In each case the procedure is as follows:

"Put your marker down to find the next row of pictures. I will say the pictures. Put your finger under the picture while I say the name. The Examiner says:

Now, you say the pictures with me. Examiner and the child name the pictures:

Find _____. Draw a line under _____.

Find the picture that rhymes with _____. Draw a line under the picture that rhymes with _____."

Score: Number right, including Test 1 and Test 2.

The test may be discontinued after seven consecutive failures.

WRITING TEST

(Two Rhyming Pictures)

INSTRUCTIONS

"Here is a row of pictures. Put your finger down to find the first row of pictures. I will say the pictures. Put your finger under the picture while I say the name." The Examiner says:

SLED BED TREE DOLL

The Examiner watches each child to see that he puts his finger under the picture as she names it. "Now you say the pictures with me." Examiner and child name the pictures:

SLED BED TREE DOLL

Find SLED. Draw a line under SLED. Find the picture that rhymes with SLED. Draw a line under the picture that rhymes with SLED.

If the child fails, the Examiner explains:

Do SLED and BED rhyme? Yes, SLED and BED rhyme. (or, if the response is wrong, the Examiner says SLED and BED rhyme). Does TREE rhyme with SLED - BED? No, TREE doesn't rhyme with SLED. BED. Does DOLL rhyme with SLED - BED? No, DOLL doesn't rhyme with SLED - BED. SLED rhymes with BED. That is why we draw a line under SLED and BED.

The child receives help in Test 2 according to the above directions. From this point the examiner works down the page. In each case the procedure is as follows:

"Put your finger down to find the next row of pictures. I will say the pictures. Put your finger under the picture while I say the name. The Examiner says:

Now, you say the pictures with me. Examiner and the child name the pictures:

Find _____. Draw a line under _____.

Find the picture that rhymes with _____. Draw a line under the picture that rhymes with _____.

Score: Number right, including Test 1 and Test 2. The test may be discontinued after seven consecutive failures.

Test 5

RHYMING TEST DIRECTIONS (Continued)

Following is a list of words for each picture: The word underlined is the key word.

- | | | | | |
|----|-------------|-------------|-------|--------------|
| 1. | <u>SLED</u> | BED | TREE | DOLL |
| 2/ | BALL | HORN | HAT | <u>CAT</u> |
| 3. | TREE | <u>KING</u> | ROPE | RING |
| 4. | STORE | LOCK | BOY | <u>CLOCK</u> |
| 5. | <u>COAT</u> | CUP | CAP | BOAT |
| 6. | DISH | HOUSE | HORSE | <u>FISH</u> |
| 7. | <u>WALL</u> | BED | BALL | SHOES |

Test- Page 2

- | | | | | |
|-----|--------------|---------|--------|----------------|
| 1. | <u>IRON</u> | LADDER | LION | CHICKEN |
| 2. | HAND | ROOSTER | STAR | <u>BAND</u> |
| 3. | <u>BLOCK</u> | CHICKEN | KETTLE | CLOCK |
| 4. | CAKE | DOG | GOAT | <u>RAKE</u> |
| 5. | KNIFE | SPOON | FORK | <u>MOON</u> |
| 6.+ | <u>CROWN</u> | MAN | HOUSE | CLOWN |
| 7. | KITTENS | CUP | DISH | <u>MITTENS</u> |

EXERCISE: TEST DISCUSSION (Continued)

Following is a list of words for each picture. The word underlined is the key word.

1. <u>ALB</u>	RED	TRUCK	BALL
2. <u>BALL</u>	HORN	HAT	CAT
3. <u>TRUCK</u>	KING	NOSE	WING
4. <u>STONE</u>	LOVE	BOY	BLACK
5. <u>GLUE</u>	CUP	CAP	BOAT
6. <u>DISH</u>	HOUSE	HOUSE	FISH
7. <u>WALL</u>	WED	BALL	SHOES

Test - Page 2

1. <u>LEAF</u>	LARGE	ALIVE	CHICKEN
2. <u>HAND</u>	ARMED	WING	PAID
3. <u>MOON</u>	CHICKEN	KWITT	BLACK
4. <u>CASE</u>	DOO	GOO	AGE
5. <u>KNIFE</u>	FOON	YORK	MOON
6. <u>COFFIN</u>	MAN	WOLF	CLOWN
7. <u>KITCHEN</u>	CUP	DIE	MILKMAN

Test 5

RHYMING TEST DIRECTIONS (Continued)

Test, Page 3

- | | | | | | |
|----|-------------|--------|-------------|-------------|--------------------------------------|
| 1. | MAN | BOAT | BUS | <u>FAN</u> | The word underlined is the key word. |
| 2. | <u>FROG</u> | LEAF | DOG | LAMP | |
| 3. | BED | HORN | HORSE | <u>CORN</u> | |
| 4. | BOYS | TENT | <u>TOYS</u> | FISH | |
| 5. | STOP | PIES | FISH | <u>EYES</u> | |
| 6. | GUN | CHURCH | CHIMNEY | <u>SUN</u> | |
| 7. | BEE | MEN | <u>TEN</u> | THREE | |

Test - Page 4

- | | | | | | |
|----|------------|-------------|---------|---------------|--|
| 1. | BILL | BOYS | TOYS | <u>HILL</u> | |
| 2. | GOAT | <u>BAKE</u> | COAT | CAKE | |
| 3. | <u>HOP</u> | MAT | TOP | CAT | |
| 4. | BRIDGE | <u>FALL</u> | BROOM | BALL | |
| 5. | DRUM | <u>DUCK</u> | DRESS | TRUCK | |
| 6. | <u>BEE</u> | BIRD | BRIDGE | TREE | |
| 7. | ROPE | CARROT | ROOSTER | <u>PARROT</u> | |

The directions are:

Find (keyword.) Draw a line under (key word).

Find the picture that rhymes with (key word).

Draw a line under the picture that rhymes with (key word).

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Test 2

READING TEST DIRECTIONS (Continued)

Test, Page 2

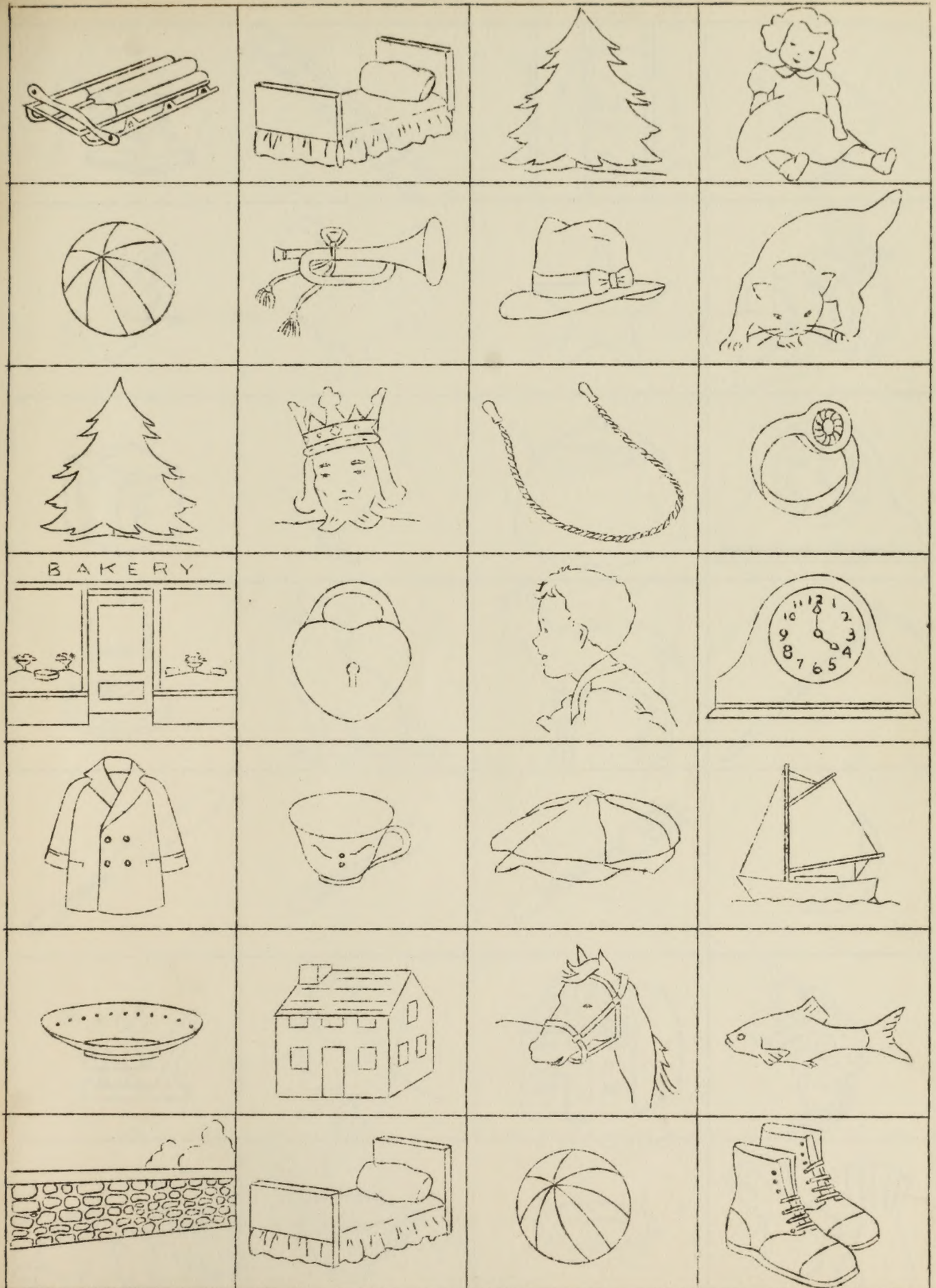
1. MAN	BOLT	BUS	MAN	The word underlined in the key word.
2. ROAD	LEAD	DOT	LEAD	
3. END	WIDE	HOUSE	CORN	
4. BOYS	TENT	WAVE	FISH	
5. SHOP	PIES	FISH	EYES	
6. CUP	CHURCH	CHIMNEY	SUN	
7. BEE	WAX	TEEL	THREE	

Test - Page 4

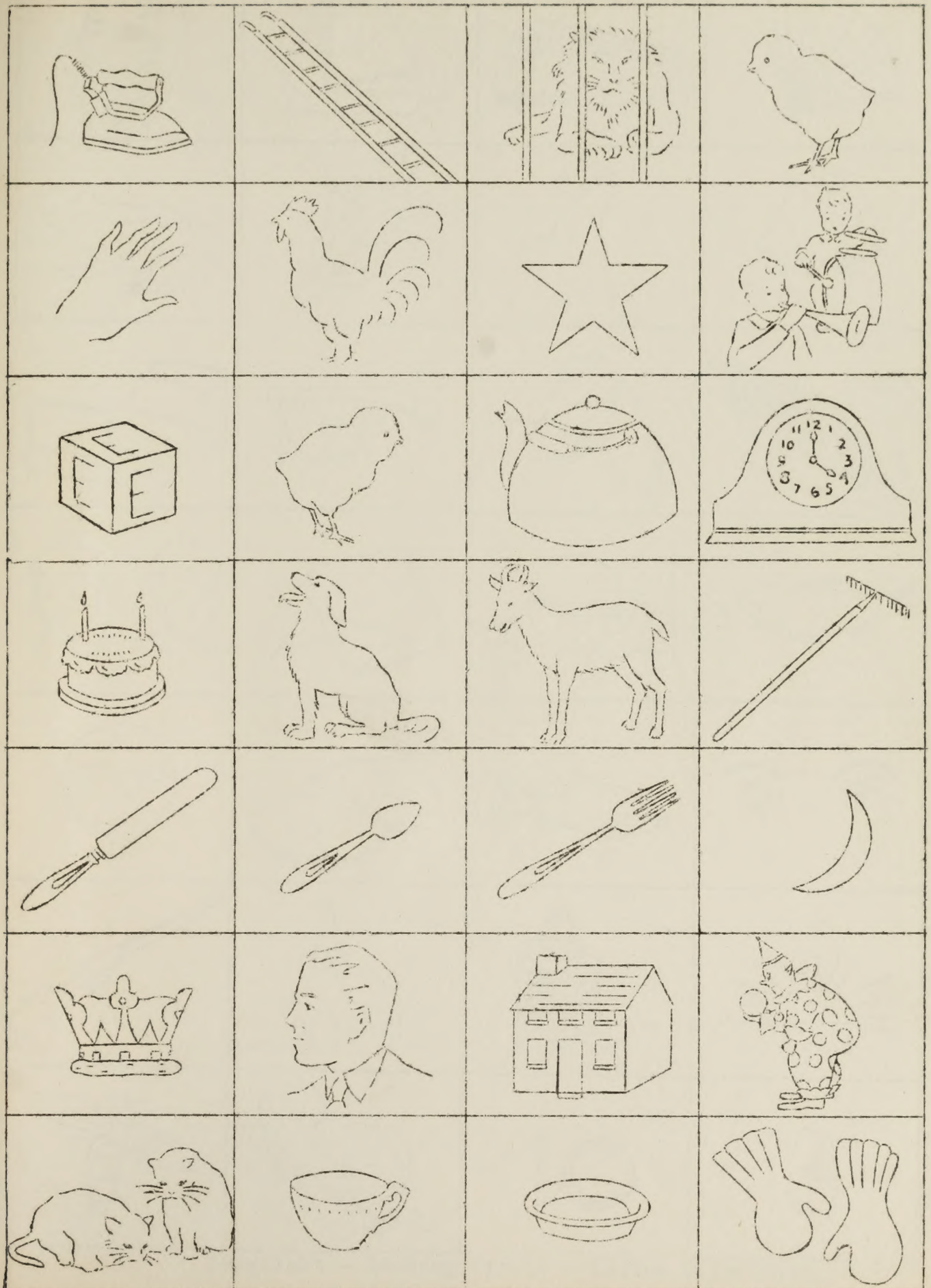
1. BIRD	BOY	TOYS	HILL	
2. GOAT	BUS	COT	CAGE	
3. BOY	MAT	TUB	CAT	
4. BRIDGE	YARD	BRICK	WELL	
5. DAIN	DUCK	BREED	POOK	
6. BEE	BIRD	BRIDGE	TRAY	
7. ROSE	CANON	WOODEN	PARADE	

The directions are:

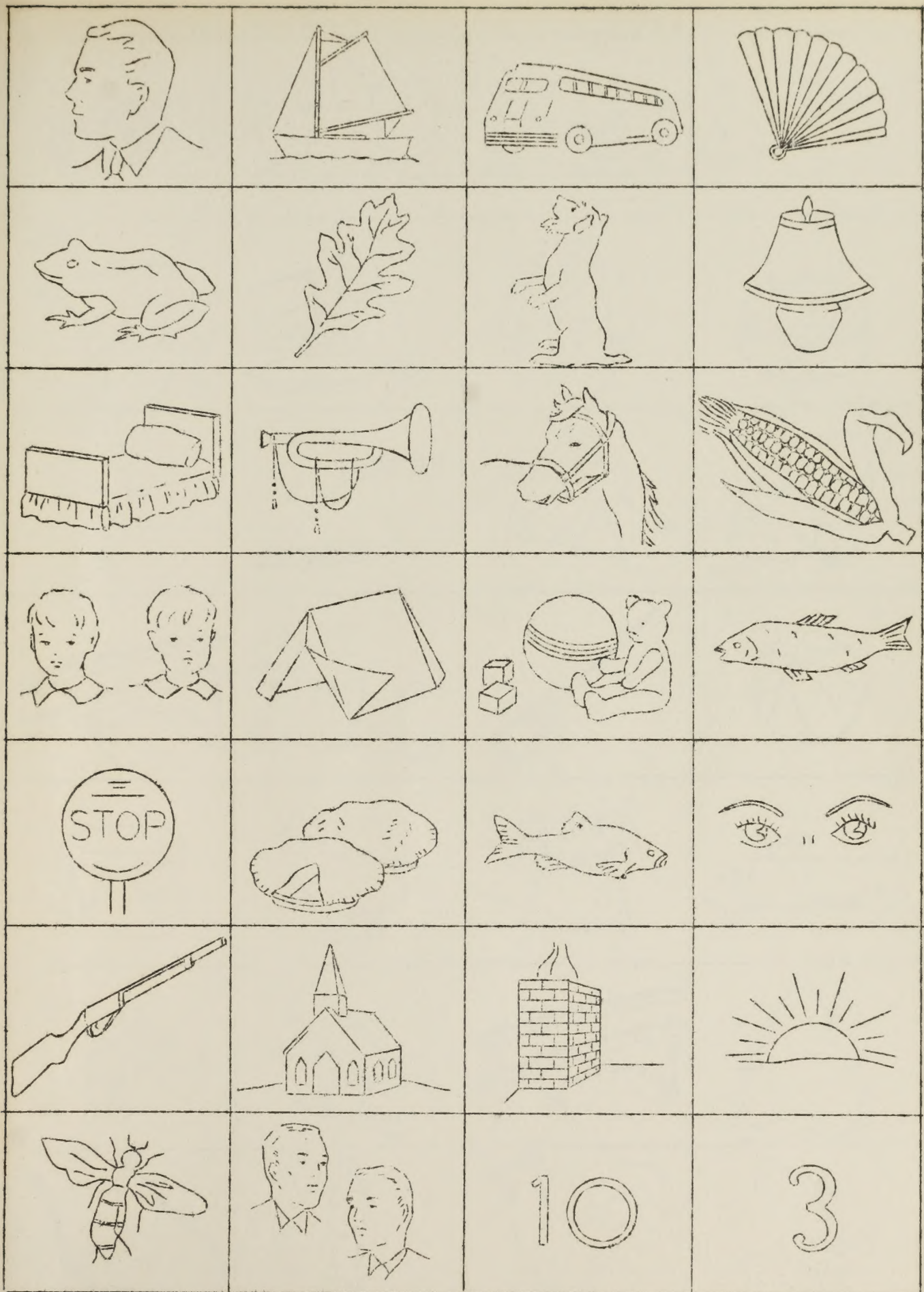
- Find (keyword). Draw a line under (key word).
- Find the picture that rhymes with (key word).
- Draw a line under the picture that rhymes with (key word).

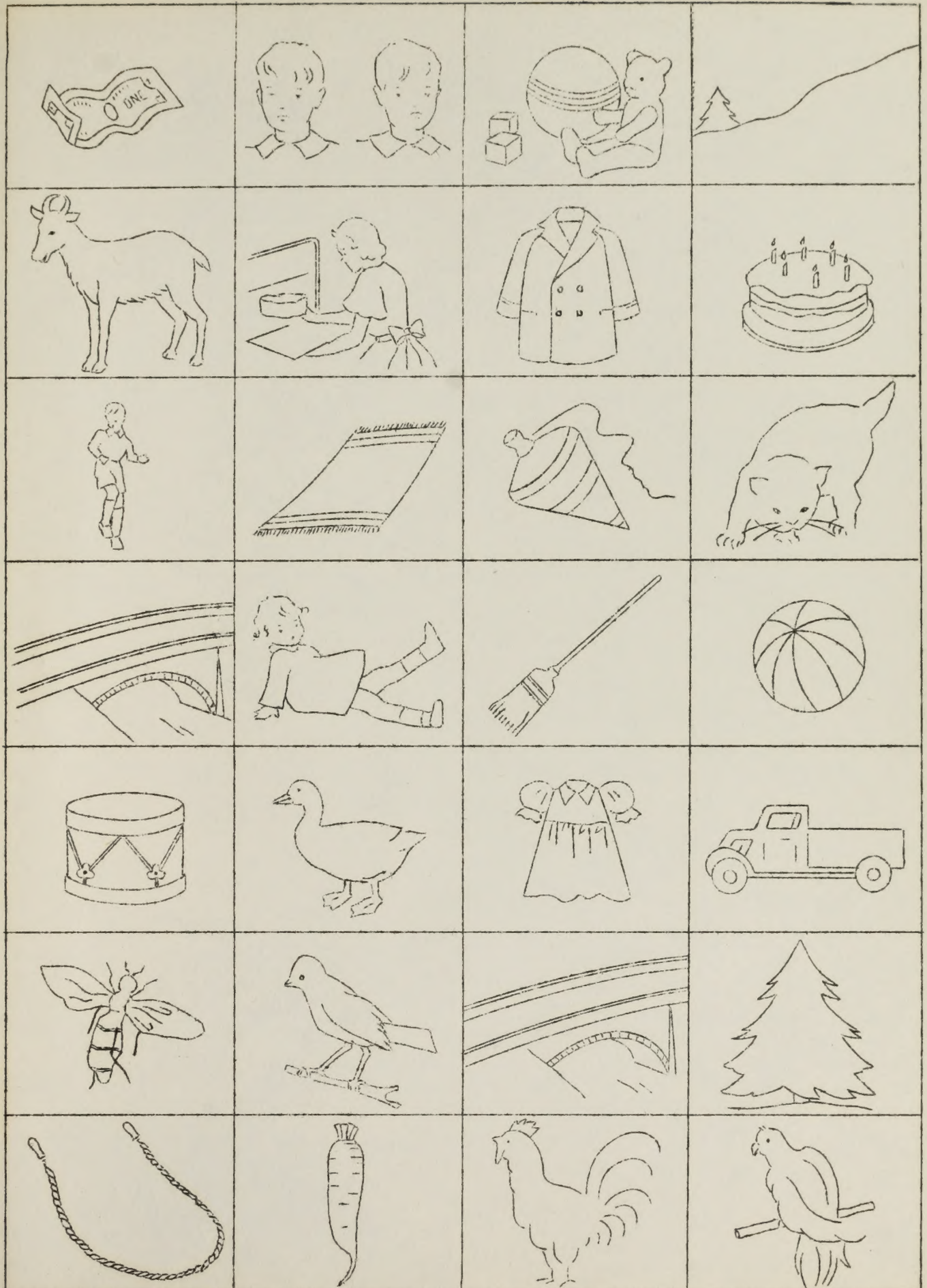




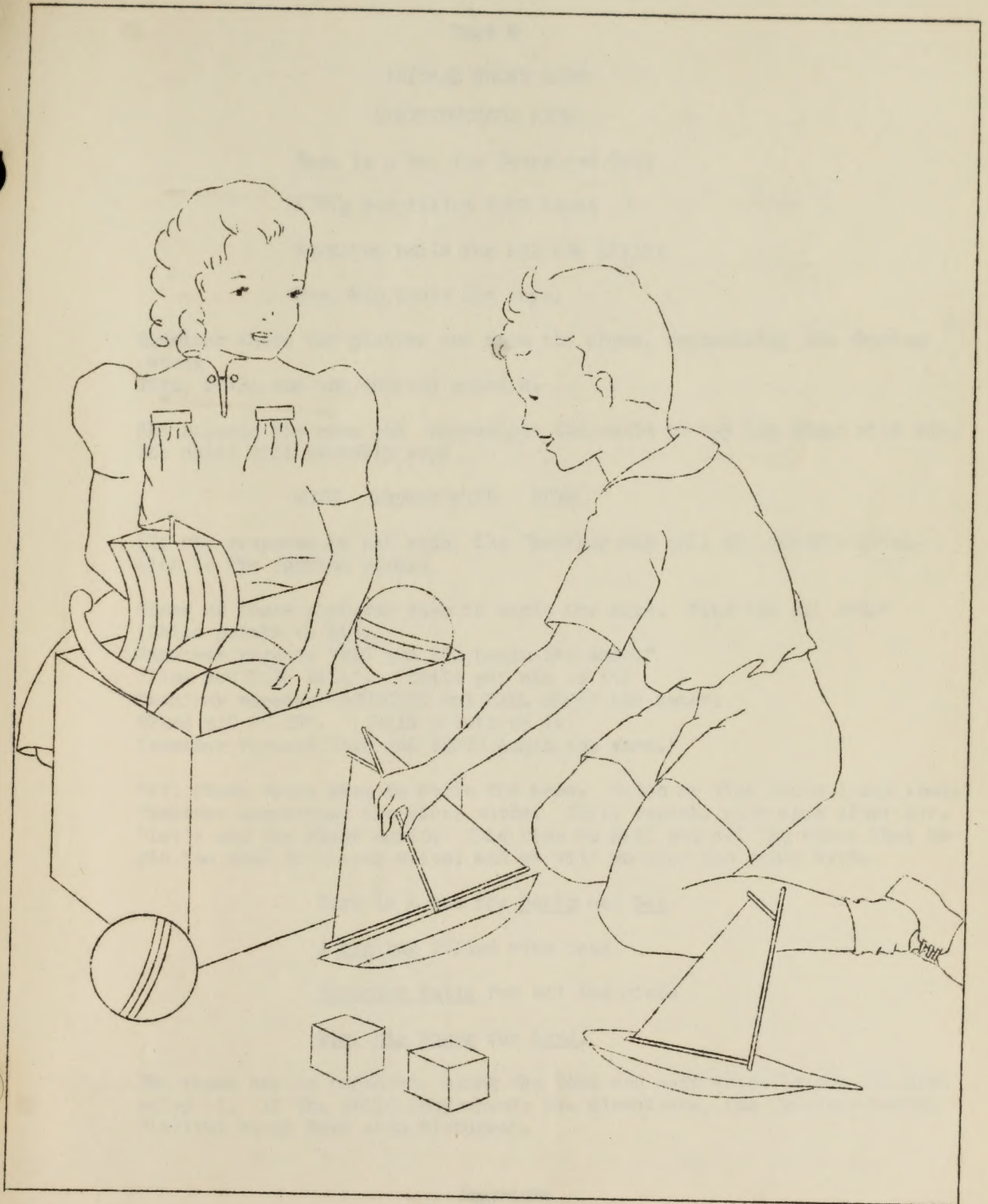














Test 8

INITIAL SOUND TEST

(INTRODUCTORY RHYME)

Here is a box for Betty and Bob;

A big box filled with toys;

Bouncing balls for all the girls;

Big, big boats for boys.

Examiner shows the picture and says the rhyme, emphasizing the rhyming words

TOYS, BOYS, and the initial sound B.

She repeats the rhyme and encourages the child to say the rhyme with her. The child will probably say:

TOYS rhymes with BOYS

(If the response is not made, the Examiner may call the child's attention to the rhyming words).

"Some of these pictures seem to begin the same. Find the BIG BOX."

(Child points to it).

Examiner repeats "BIG and BOX begin the same."

"Find BOUNCING BALL". (Child points to it)

Examiner repeats "BOUNCING and BALL BEGIN the same".

"Find BIG BOATS". (Child points to it)

Examiner repeats "BIG and BOATS begin the same."

"All these words seem to begin the same. Watch my lips while I say them."

Examiner enumerates the above words. Child repeats each word after her.

"Let's say the rhyme again. This time we will say all the words that begin the same in a loud voice; and we will whisper the other words.

Here is a box for Betty and Bob

A big box filled with toys

Bouncing balls for all the girls

Big, big boats for boys.

The rhyme may be repeated, using the loud and soft voice if the children enjoy it. If the child comprehends the directions, the Examiner begins "Initial Sound Test with Pictures".

INITIAL SOUND TEST

(INTERMEDIATE LEVEL)

Here is a box for Betty and Bob:

A big box filled with toys:

Bouncing balls for all the girls:

Big, big boxes for boys.

Examiner shows the picture and says the rhyme, emphasizing the rhyming

words

TOYS, BOYS, and the initial sound B.

She repeats the rhyme and encourages the child to say the rhyme with her.
The child will probably say:

TOYS rhymes with BOYS

If the response is not made, the examiner may call the child's attention to the rhyming words.

Some of these pictures seem to begin the same. Find the BIG BOX."

(Child points to it.)

Examiner repeats "BIG and BOX begin the same."

"Find BOBBY BALL." (Child points to it.)

Examiner repeats "BOBBY and BALL begin the same."

"Find BIG BOY." (Child points to it.)

Examiner repeats "BIG and BOY begin the same."

"All these words seem to begin the same. Watch my lips while I say them."

Examiner enunciates the above words. Child repeats each word after her.

"Let's say the rhyme again. This time we will say all the words that be-

gin the same in a loud voice; and we will whisper the other words.

Here is a box for Betty and Bob

A big box filled with toys

Bouncing balls for all the girls

Big, big boxes for boys.

The rhyme may be repeated, using the loud and soft voice if the children enjoy it. If the child understands the directions, the examiner begins

"Initial Sound Test with Pictures."

Test 8

INITIAL SOUND TEST WITH PICTURES

DIRECTIONS

Here is a row of pictures. Some of these pictures begin the same. Put your marker down to find the first row of pictures. I will say the pictures.

BOX BALL BOAT SHOE

The Examiner watches the child to see that he puts his finger under the picture as she names it.

"Now, you say the pictures with me. Put your finger on the first picture. Watch my lips.

BOX	-	Examiner	pauses	-	child	says	BOX
BALL	-	"	"	-	"	"	BALL
BOAT	-	"	"	-	"	"	BOAT
SHOE	-	"	"	-	"	"	SHOE

Find BOX. Draw a line under BOX. Find two pictures that begin the same as BOX.

If the child fails, the Examiner explains:

BALL begins the same as BOX

BOAT " " " " BOX

SHOE does not begin the same

Watch my lips and listen to me say:

BOX BALL BOAT They all begin the same.

That is why we draw a line under BOX BALL BOAT

The child receives help in Test 2 according to the above directions.

From this point the Examiner works down the page. In each case, the procedure is as follows:

"Put your marker down to see the next row of pictures. I will say the pictures. Put your finger under the picture while I say the name". The Examiner says:

Examiner watches each child to see that he puts his finger under the picture as she names it.

INITIAL SOUND TEST WITH PICTURES

DIRECTIONS

Here is a row of pictures. Some of these pictures begin the same. Put your finger down to find the first row of pictures. I will say the pictures.

BOX

BOAT

BALL

BOX

The Examiner watches the child to see that he puts his finger under the picture as he names it.

Now, you say the pictures with me. Put your finger on the first picture. Watch my lips.

BOX - Examiner pauses - child says BOX

BALL - " " " " " BALL

BOAT - " " " " " BOAT

BOX - " " " " " BOX

Find BOX. Draw a line under BOX. Find two pictures that begin the same as BOX.

If the child fails, the Examiner explains:

BALL begins the same as BOX

BOAT " " " " " BOAT

BOX does not begin the same

Watch my lips and listen to me say:

BOX BALL BOAT They all begin the same.

That is why we draw a line under BOX BALL BOAT

The child receives help in Test 3 according to the above directions.

From this point the Examiner works down the page. In each case, the procedure is as follows:

"Put your finger down to see the next row of pictures. I will say the pictures. Put your finger under the picture while I say the name." The Examiner says:

Examiner watches each child to see that he puts his finger under the picture as she names it.

Test 8

INITIAL SOUND TEST WITH PICTURES

DIRECTIONS

"These pictures seem to begin the same. Say the pictures with me. Put your finger under the first picture. Watch my lips".

_____	Examiner pauses - child says	_____
_____	" " - " "	_____
_____	" " - " "	_____
_____	" " - " "	_____

Find _____. Find two pictures that begin the same as _____.

^{DRAW} a line under the two pictures that begin the same as _____.

Sample Test and Test I.

Score: Number right, including

The test is discontinued after five consecutive failures.

INITIAL SOUND TEST WITH PICTURES

DIRECTIONS

These pictures seem to begin the same. Say the pictures with me. Put your finger under the first picture. Watch my lips.

Examiner names - child says	_____
" " " " " "	_____
" " " " " "	_____
" " " " " "	_____

Find two pictures that begin the same as _____
 Put a line under the two pictures that begin the same as _____

Sample Test and Test 1.

Score: Number right, including _____
 The test is discontinued after five consecutive failures.

Test 8

INITIAL SOUND TEST

DIRECTIONS

The following is a list of words used in this test.

1.	COAT	CUP	SHOE	CART
2.	FAN	FENCE	FISH	EGG
3.	BALL	BOOK	EYES	BED
4.	LETTER	LEAF	LAMP	TIGER
5.	ROPE	STAR	RUBBERS	RABBIT
6.	QUEEN	HOUSE	HORN	HAND
7.	DESK	DOOR	CLOWN	DOG

Page 2

8.	SAILOR	SAW	PARROT	SUIT
9.	KITE	MAN	KEY	KITTENS
10.	TENT	TIE	DISHES	TIGER
11.	GIRL	GUN	GAS	AIRPLANE
12.	PIG	PAIL	DISH	PIPE
13.	MITTENS	MOTHER	MONKEY	SEESAW
14.	HAT	FARMER	FAUCET	FISH

The key word is the first word-picture with the following exception:

Test 6 - Key word is HOUSE

Test 14- " " " FARMER

Test 8

INITIAL SOUND TEST

DIRECTIONS

The following is a list of words used in this test.

1. COAT	CUP	SHOE	CART
2. FAN	FENCE	FISH	EGG
3. RAIL	BOOK	EYES	HEAD
4. LETTER	LEAF	LAMP	TIGER
5. ROPE	STAR	HUBBARD	RABBIT
6. QUEEN	HOUSE	HORN	HAND
7. DESK	DOOR	CLOWN	DOG

Page 2

8. SAILOR	SAIL	PARROT	SUIT
9. KITE	MAN	KEY	KITTENS
10. TENT	TIE	DISHES	TIGER
11. GIRL	GUN	GAS	AIRPLANE
12. PIG	PAIL	DISH	PIPE
13. MOTHER	MOTHER	HONEY	SEESAW
14. HAT	FARMER	FAUCET	FISH

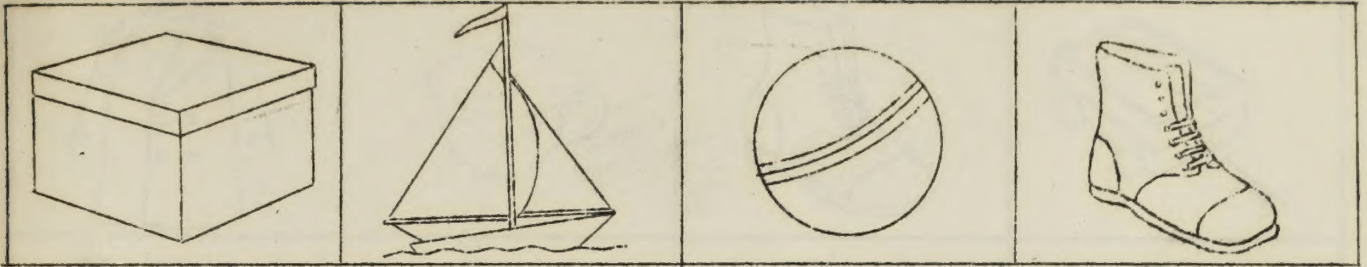
The key word is the first word-phoneme with the following exception:

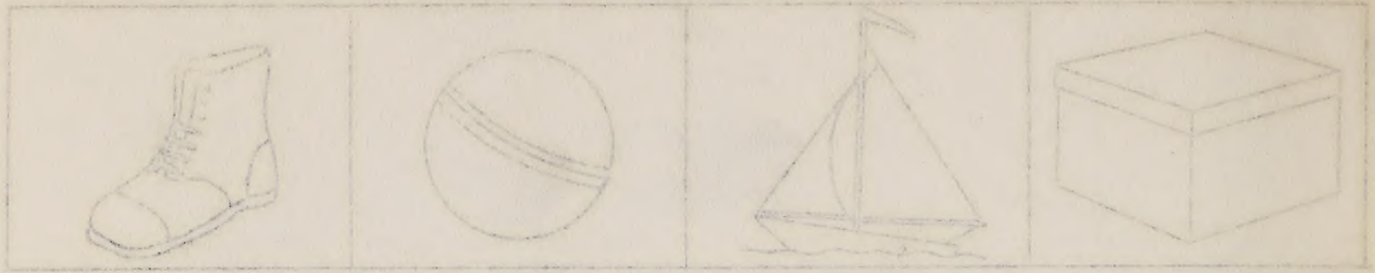
Test 8 - Key word is HOUSE

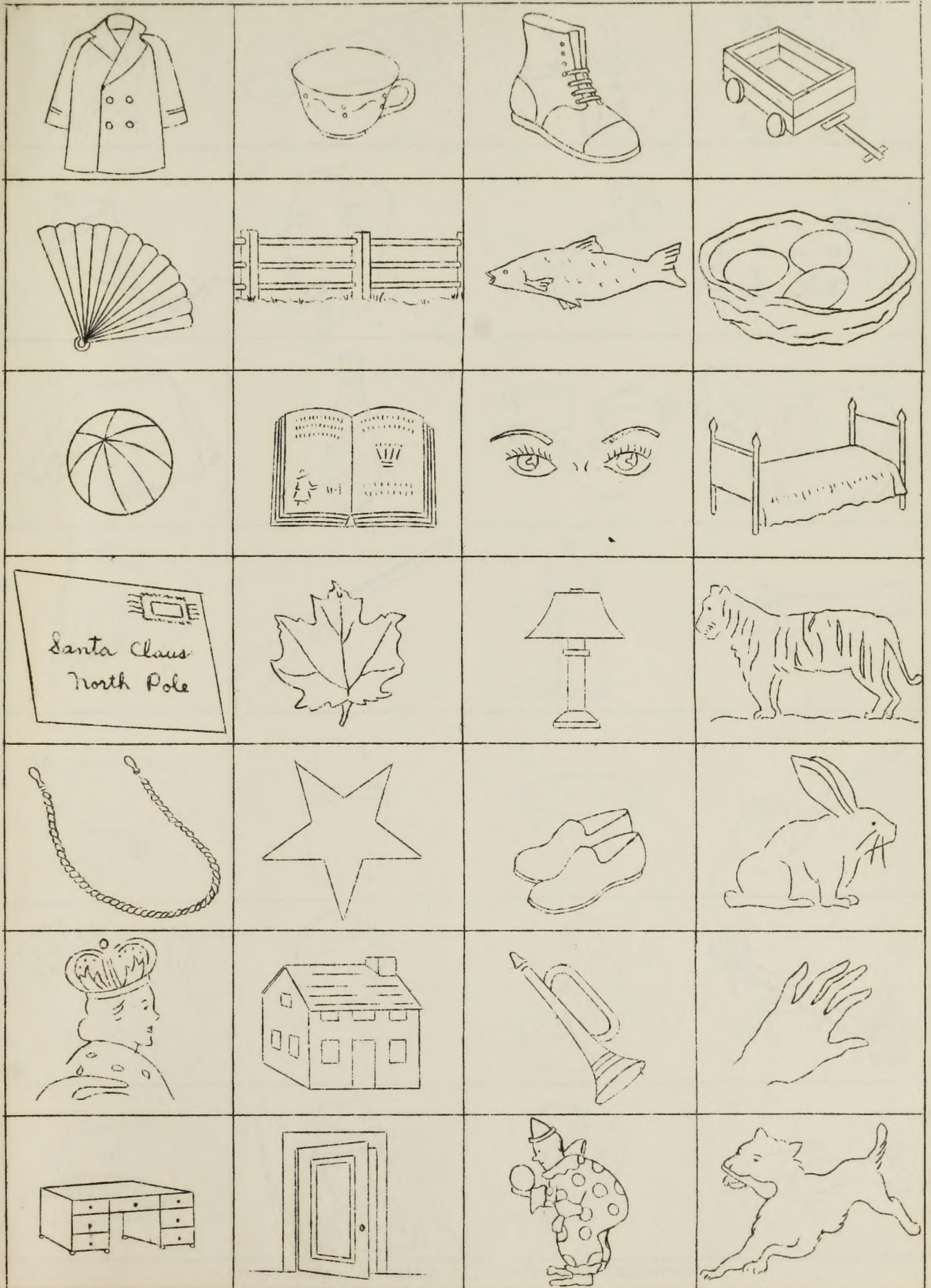
Test 14 - " " " " FARMER

TEST 8

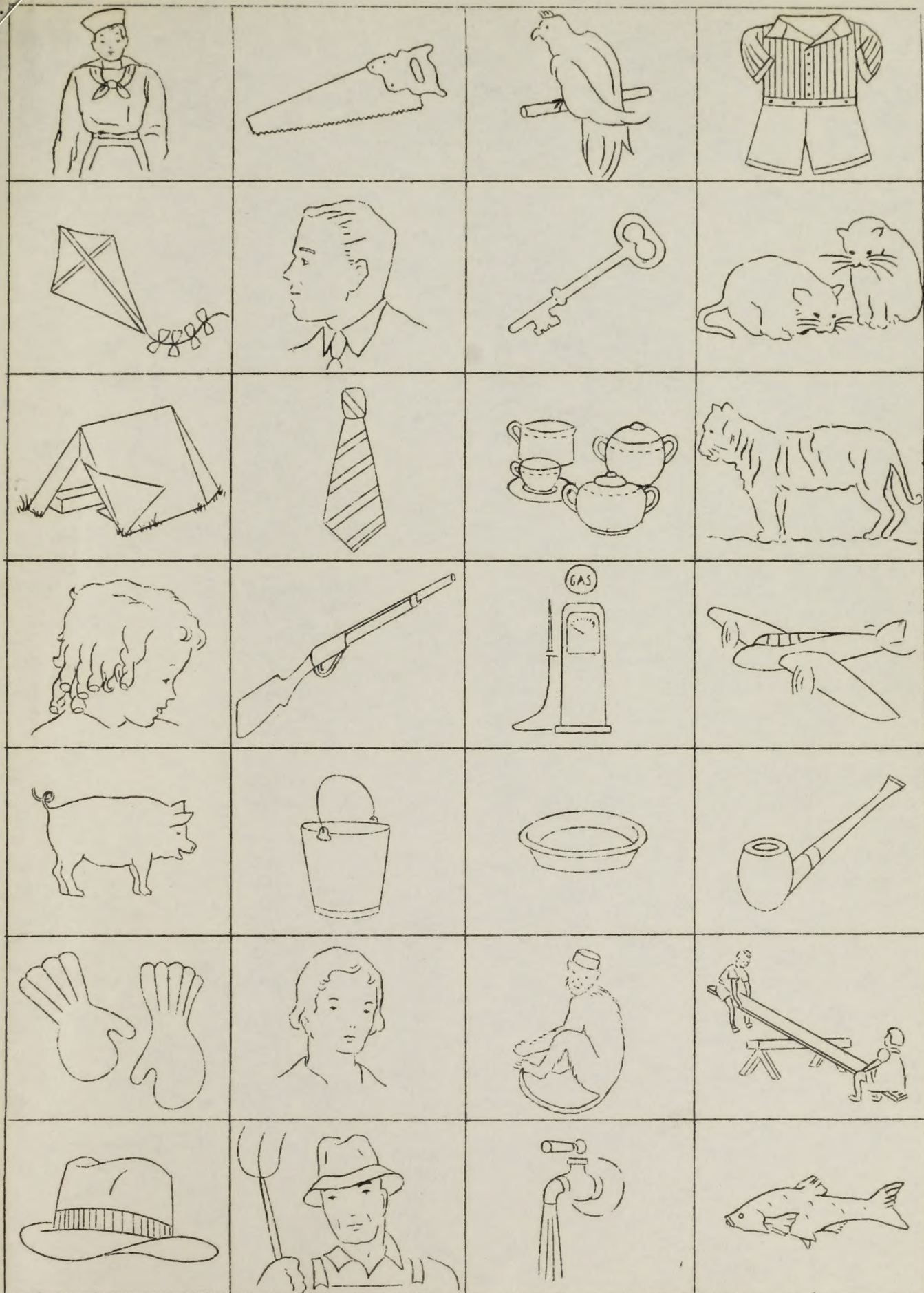
SAMPLE TEST













Test 10

(The child needs a pencil for this test).

"Here is a---(duck). (If the child does not respond Examiner tells him). On this duck there are short lines and spaces. (Examiner illustrates on the board). Put your finger on the duck's head and play drawing a line around his bill. Keep your finger on the short lines and spaces."

"Now take a pencil and draw a line around the duck's bill. Draw on the short lines and spaces. When you have drawn around the duck's bill on the short lines and spaces stop,--and look at me." (Examiner checks each paper and gives the necessary help).

"Finish drawing around the duck. Keep on the short lines and spaces."

Score: Number of lines covered with the pencil.

The total score is 67. Time three minutes.

Test 10

MOTOR CO-ORDINATION DIRECTIONS

(The child needs a pencil for this test).

"Here is a--(Christmas tree). (If the child does not respond Examiner tells him). On this tree there are short lines and spaces. (Examiner illustrates on the board). Put your finger on the top of the Christmas tree and play drawing a line across the branch of the tree. Keep your finger on the short lines and spaces."

"Now take a pencil and draw a line on the top branch of the Christmas tree. Draw on the short lines and spaces. Then you have draw one branch marking each line and space stop,---and look at me." (Examiner checks each paper and gives the necessary help).

"Finish drawing the Christmas tree. Keep on the short lines and spaces."

Score: Number of lines covered with the pencil.

The totalscore is 64. Time three minutes

Direction 2: Color the Christmas tree.

THE UNITED STATES OF AMERICA

IN SENATE

REPORT
OF THE
COMMISSIONER OF THE
GENERAL LAND OFFICE
FOR THE YEAR
1901

WASHINGTON:
GOVERNMENT PRINTING OFFICE:
1902

UNITED STATES OF AMERICA

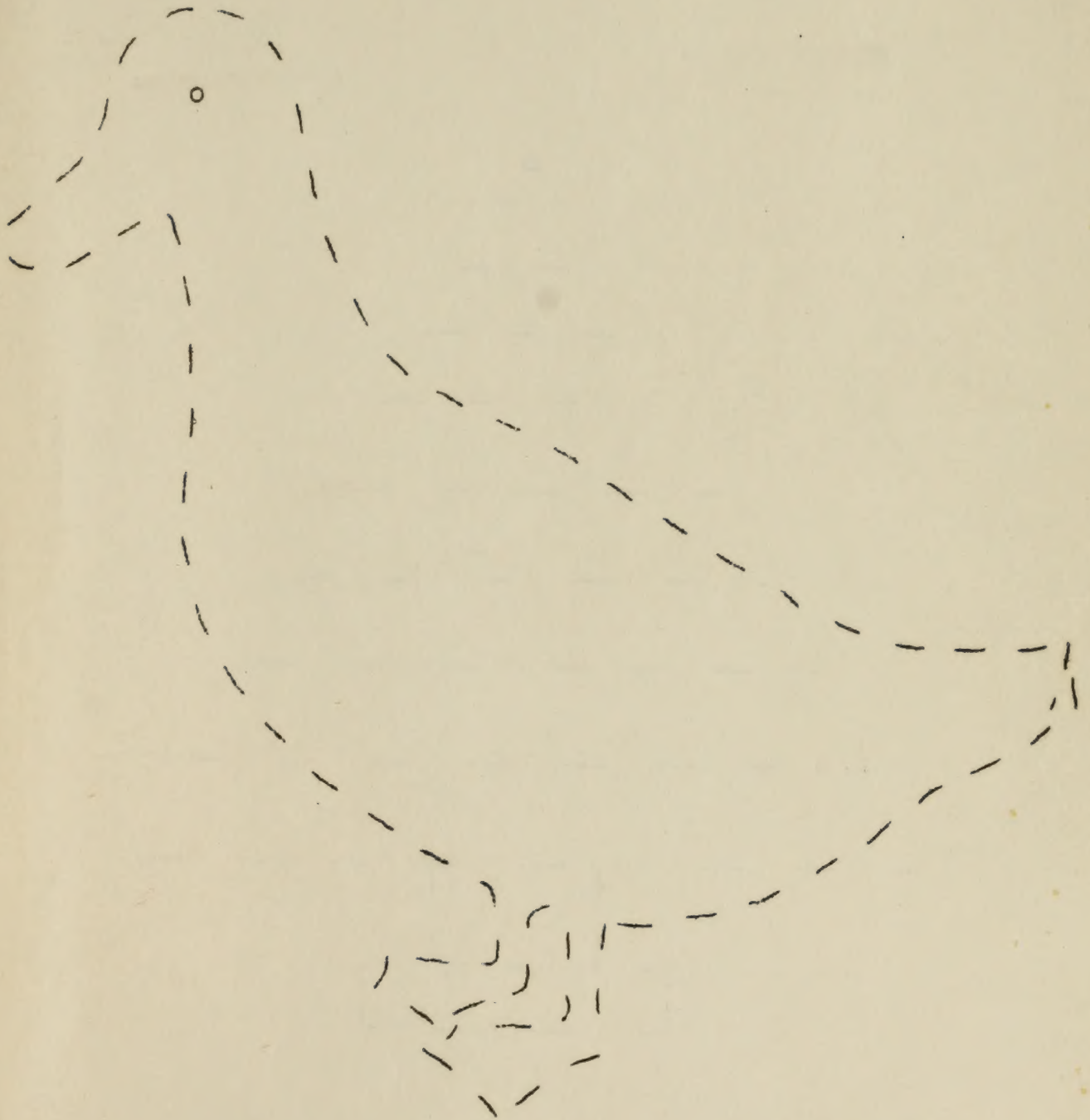
DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

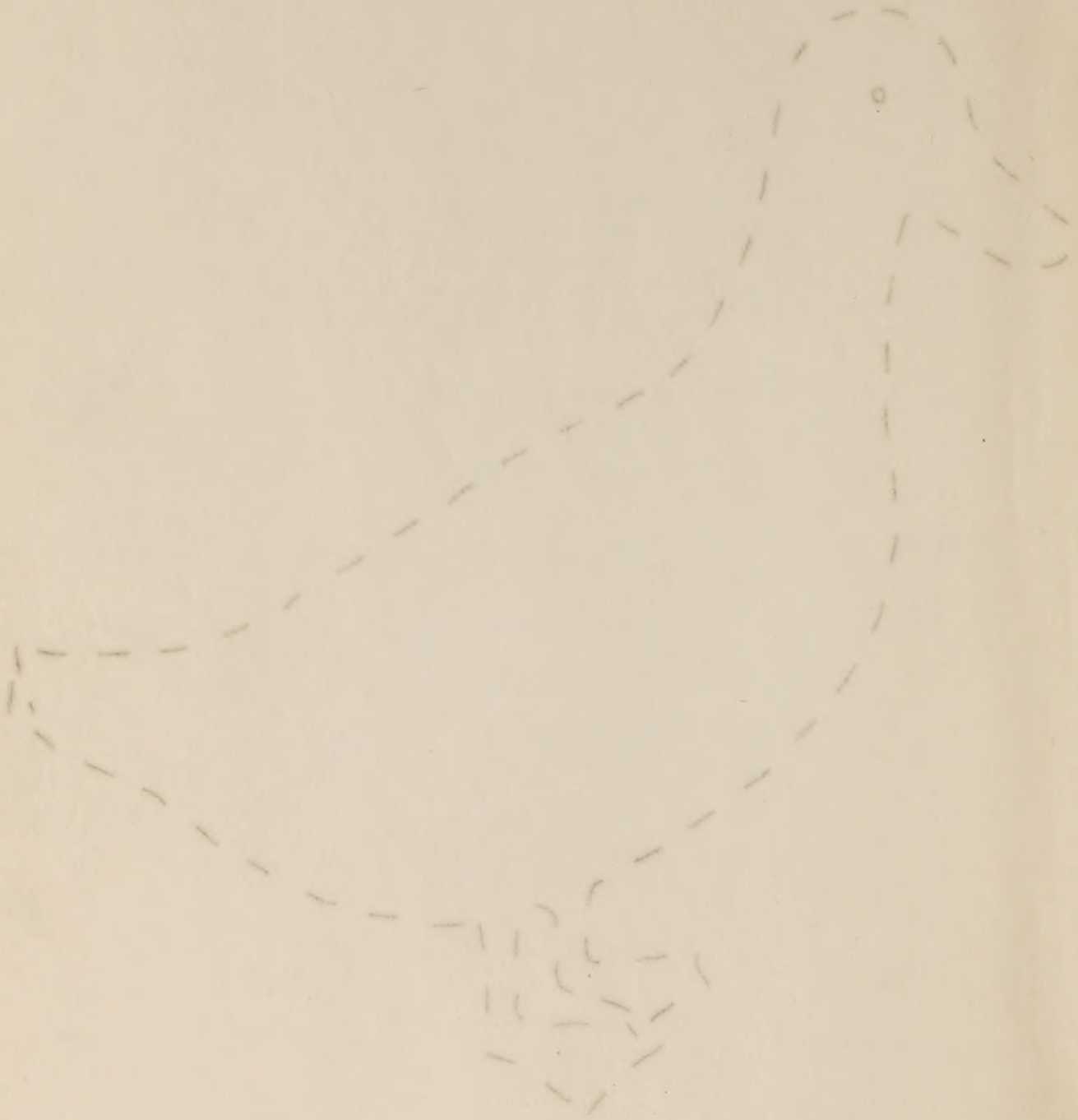
REPORT

FOR THE YEAR
1901

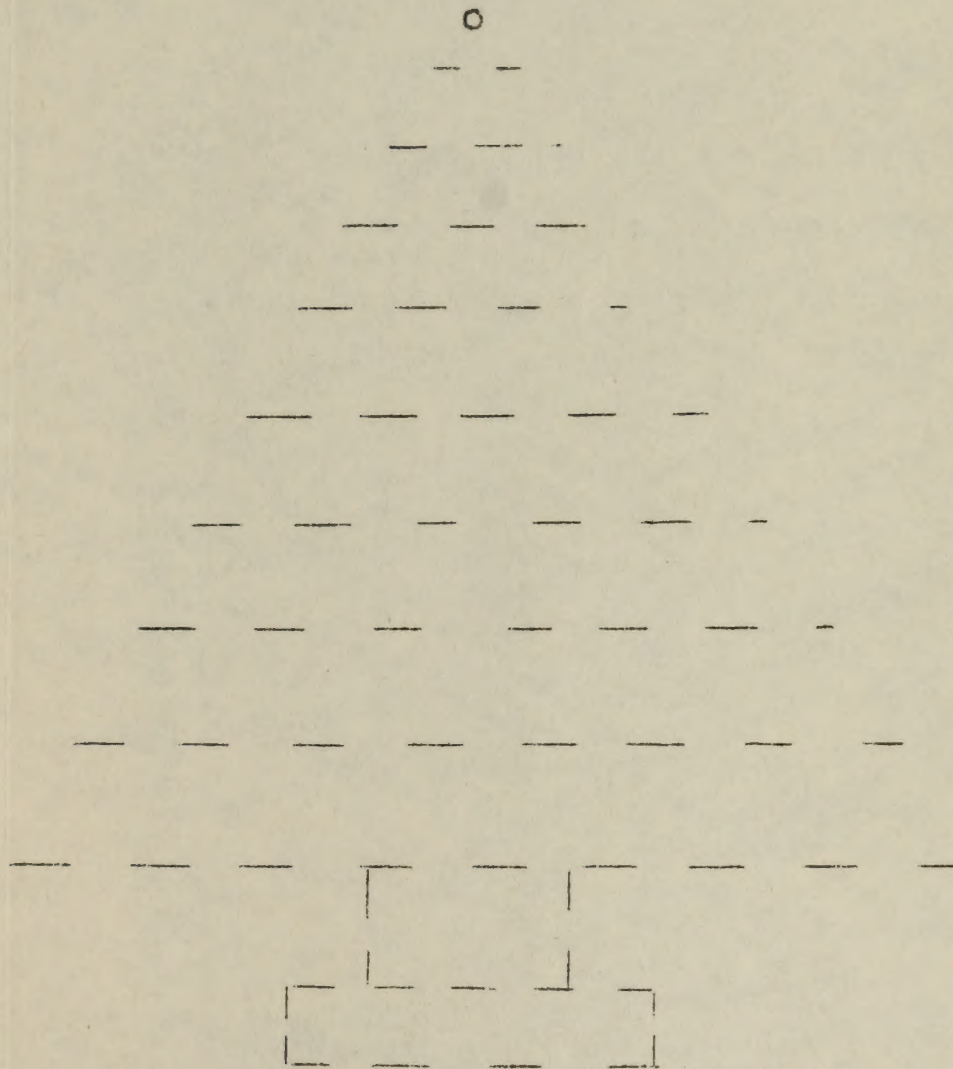
TEST 10 A.



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